

July 15, 1976

Survey of Adverse Health Effects to
Workers Using Pesticides Containing Propargite
(Omite and Comite)

K. T. Maddy, Staff Toxicologist
Agricultural Chemicals and Feed
California Department of Food and Agriculture
1220 N Street
Sacramento, California

DEPARTMENT OF FOOD AND AGRICULTURE



1220 N Street
Sacramento
95814

July 19, 1976

Ms. Barbara Nellor
Project Officer, Pesticides Branch
U. S. Environmental Protection Agency
100 California Street
San Francisco, California 94111

Dear Ms. Nellor

Attached is a report of our study of the human illness problems that have been associated with the use of propargite (Omite and Comite) in California in recent years.

Our Department and the Department of Health reached the conclusion that the number of human illness incidents had reached unacceptable levels. Although it is too early to reach final conclusions, it appears that the studies made and proposed, the formulation changes already made and proposed, and the packaging changes that were made by Uniroyal have made this product far safer to use. So far in 1976, no human illness attributable to exposure to Omite 30W have come to our attention.

This report is submitted as specified by Item II, 5 of Contract Number W6990305B.

Sincerely

A handwritten signature in cursive script, appearing to read "Keith T. Maddy".

K. T. Maddy, Staff Toxicologist
Agricultural Chemicals and Feed
(916) 445-8474

Attachment

I N D E X

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Progress Report of July 15, 1976
on Solution of Problems with Omite

Entitled:

"Attempts at Solutions of Human Illness Problems
Associated with Exposure of Persons Working
with Propargite (Omite)"

July 15, 1976

ATTEMPTS AT SOLUTIONS OF HUMAN ILLNESS PROBLEMS
ASSOCIATED WITH EXPOSURE OF PERSONS WORKING
WITH PROPARGITE (OMITE)

Keith T. Maddy, Staff Toxicologist
Agricultural Chemicals and Feed
California Department of Food and Agriculture
1220 N Street
Sacramento, California

Late in 1975, our survey of human illness exposure problems to propargite (Omite) was drawing to a close and it was becoming apparent that the major problem was the very dusty nature of Omite 30W. When a user attempted to move this pesticide from its container into the mix tank, if it contacted skin, particularly sweaty skin or eyes, severe irritation was a common aftermath in a number of people.

The Department reached the conclusion that this safety hazard should be removed before this product was offered for sale in California in 1976. It was also determined that data was needed immediately as to whether propargite was a skin sensitizer. The Environmental Protection Agency was notified of these concerns and of the Department's plan to schedule an office hearing with the Uniroyal Corporation, the registrant of Omite 30W, concerning these problems.

The hearing was held by the Department, and the Uniroyal officials offered full cooperation with the Department's requirement for immediately developing a safer product should registration be desired for a similar product for 1976.

The registrant assigned several staff members with a charge to attempt rapid resolution of the problems. They conducted an independent field survey of the problems. They considered several new types and sizes of containers, including water-soluble packets, for a wettable powder. They prepared six new wettable powder formulations with decreased amounts of dustiness over the currently

registered Omite 30W. They explored the possibilities of the use of liquid formulations only. They considered the value of changes in label instructions and a safety education program. They contracted with a biological testing laboratory to carry out a skin sensitization study in guinea pigs. Field degradation of residues on plant foliage were planned.

A number of subsequent meetings were held with Uniroyal officials late in 1975 and early in 1976 as the problems were resolved.

All Omite 30W manufactured prior to December 1, 1975 was withdrawn from sale and removed from California. A new formulation of Omite 30W with negligible dustiness characteristics was proposed for use in California in 1976. This was achieved by a trade-secret change in the formulation process. This change was studied by the Department and the Environmental Protection Agency and was considered as being so minor as not needing extensive review. New burst-proof bags were put into use that have to be emptied in such a way that minimizes dusting problems. A series of dinner meetings were held by the registrant in the major use areas at which an overall safe-use-of-pesticides program was presented. Field men were detailed by the registrant to monitor major users for any problems with the altered product and the new containers. Plans for field residue studies on foliage to be conducted by the registrant in 1976 proceeded. Field evaluation of new experimental liquid formulations began.

Although it is too early to reach final conclusions, so far no human illness attributable to exposure to Omite 30W are known to have occurred in 1976. The formulation in use has negligible dusting problems in the field and as a side-benefit goes into solution in the mix tank much quicker than did the Omite 30W that was previously used.

We will continue to moniter the use of products that contain propargite for possible human illness problems.

Report of Jan. 15, 1976 Summarizing
"Human Exposure Incidents Relating to
Use of Pesticides Containing
Propargite (Omite and Comite)"

January 15, 1976

HUMAN EXPOSURE INCIDENTS RELATING TO USE OF
PESTICIDES CONTAINING
PROPARGITE (OMITE AND COMITE)

Due to increasing numbers of pesticide illnesses (cases of dermatitis and eye irritation) occurring in persons working with the pesticides containing propargite (Omite and Comite), the California State Department of Health and the Department of Food and Agriculture began a worker safety evaluation of these products in mid-1974 and completed this in January 1976.

Considerable information was collected that related to this topic. Included was a study of Omite and Comite labels, labels of other miticides, pesticide illness reports relating to Omite and Comite for 1974 and 1975, excerpts from pesticide use reports, selected reprints and literature on propargarite, and summaries of conversations with 30 pest control advisors and pest control operators.

In our survey of pest control operators and pest control advisors, we focused on the mixer/loader and applicator exposure incidents. These have accounted for the vast majority of illnesses in the past; however, we were also concerned about the possibility of field worker exposures. We learned of several field worker exposures during 1974 and 1975 that involved Omite. These were investigated; although there were some suggestions of problems, since sulfur was almost always also on the crop to which the field worker was exposed, it was not possible to identify a field worker problem due to exposure to residues of propargite alone on plants.

Data taken from Department of Food and Agriculture Pesticide Use Reports indicates that Omite and Comite (these products are listed in the reporting

system solely under Omite) are used widely on numerous crops in California.

	NUMBER OF CROPS	NUMBER OF APPLICATIONS	POUNDS USED	ACRES COVERED
1973	22	6,601	498,705	315,343
1974	22	6,738	790,295	442,700
1975	21	5,462	641,988	324,598

Growers, pest control operators and pest control advisors in the lower San Joaquin Valley regard the products Omite and Comite as a very valuable miticide. For instance, when speaking of the mite problem in grapes in that area, it is the opinion of many that Omite is currently the most effective miticide available.

If Omite and Comite were not available as miticides, it was our observation that most of the logical replacements would be pesticides containing organophosphates with much greater hazards to mixers, loaders and applicators due to inhalation and dermal exposure.

Late in 1975, the State Department of Health took the position that proparicide was a skin sensitizer and that products containing it should have registrations cancelled. The United Farm Workers Union, shortly thereafter, took the position that these products should not be used on farms where their union maintained contracts.

Pesticide illness reports studied for 1974 and 1975 years indicates sizable numbers dealing with Omite and Comite. A report prepared by the State

Department of Health, entitled "Summary of Human Occupationally-Acquired Illnesses Reported in 1974 by Physicians in California as Due to Exposure to Omite or Comite", listed some 36 incidents during 1974. As the exposure problems associated with these compounds are dermatitis and eye irritation, a greater number were expected to go unreported. During our survey in 1975 in the lower San Joaquin Valley, such a suspicion was borne out by speaking with a number of persons who had experienced skin and eye problems they attributed to exposure to Omite, but they did not seek treatment from a physician.

We studied incidents identified in the Health Department survey of the 1974 Omite/Comite illnesses. From this study, we determined that Omite was responsible for 30 cases; whereas, Comite was involved in only 3. A classification by occupation indicated that 24 ground applicators, 6 mixer/loaders, 3 field workers and 0 aerial applicators were involved in the reported incidents.

During our interviews of 30 pest control advisors and operators in the southern part of the San Joaquin Valley, we found that of 15 aerial applicators contacted, only two reported past single minor incidents relating to Comite. On the other hand, of the 12 ground applicators, 5 had experienced severe or repetitive illness problems related to Omite. It appeared that most of the ground applicators received their skin exposures while mixing and loading their vehicles, as a secondary job.

Even though the aerial application process may have certain safety advantages, such as having a mixer/loader and a separate applicator with little exposure of the applicator to spray mist, it appears that a more significant

reason for the freedom of incidents in the aerial application work category may be that most aerial applications of these products were generally made to cotton and using Comite rather than Omite.

Most field observation data seemed to indicate that Omite caused the major problem. More specifically, it appeared that the problems most often centered around Uniroyal's Omite 30 W.

Such data pointed to the need of either safeguarding this wettable powder from human contact by use of dissolvable containers, reducing its very dusty nature, or some other effective means or marketing only a liquid formulation. It appeared that such measures should drastically reduce exposures. Such effort could be fortified with uniform label categorization and explicit label warnings concerning dermal and eye hazards explicitly requiring face, eye and hand covering. There seemed to be some difference of opinion concerning the use of long-sleeved coveralls in warm weather when working with these products.

6-10/B/28,29

Regulatory Actions

State of California

Memorandum

To : D. W. Dean
Program Supervisor

Date : 2 October 1975

Place: Sacramento

From : Department of Food and Agriculture - Keith T. Maddy
Staff Toxicologist

Subject: Restrictive Actions Concerning Echols, Antrol and Omite

I briefed Brian Sturgess and Barbara Birch of EPA by telephone on the problems on these three products and on our proposed actions.

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State of California

Memorandum

To : D. W. Dean
Program Supervisor

Date : 3 October 1975

Place: Sacramento

From : Department of Food and Agriculture - K. T. Maddy, Staff Toxicologist

Subject: Problems with Pesticides Containing Omite

A review of the data relating to skin and eye damage to persons exposed to Omite leads me to the conclusion that the registration of Uniroyal Omite 30W EPA Reg. No. 00400-00082 AA should be cancelled by December 31, 1975 unless water-soluable packaging or a similar type of safeguarding process is instituted by the registrant.

I recommend that a 10 day safety interval be imposed by a Department regulation for all uses on all crops of any product containing Omite.

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State of California

Memorandum

To : S. A. Peoples, M.D.
Medical Consultant

Date : October 3, 1975

Place: Sacramento

Telephone: 445-8474

From : Department of Food and Agriculture - Wm. J. Thomas, Inspector
Agricultural Chemicals and Feed

Subject: Office Hearings with Chemical Companies

During the course of the next two or three weeks we have office hearings scheduled with Athena Co. concerning their product Echols Roach, Ant and Waterbug Killer, Boyle Midway concerning their products Antrol Ant Syrup and Antrol Ant Killer and Uniroyal, regarding their product Omite 30 Wettable powder.

We feel that it would be beneficial if we had a short statement from you supporting our position if you deem it appropriate to do so. Attached are three suggested memorandum you may use as a guide. Please feel free to respond in any manner you feel appropriate, based upon your observations and expertise.

The only urgency concerns the Echols Roach, Ant and Waterbug Killer as the meeting is next Thursday and we would like to prepare our materials Tuesday afternoon or Wednesday.

Your consideration of this matter is appreciated.

15-

State of California

Memorandum

To : D. W. Dean
Program Supervisor

Date: 3 October 1975

Place: Sacramento

From : Department of Food and Agriculture - S. A. Peoples, M. D., Medical Consultant

Subject: Human Health Problems Following Exposure to Products Containing Omite

From reviewing Doctor's First Reports of Work Injury submitted in 1975 that involved exposure to Omite, the State Department of Health summary of Omite incidents that occurred in 1974, a report by W. J. Thomas entitled "Survey of Human Illness Hazards Relating to the Products Omite and Comite", and from interviews of physicians who have handled Omite exposure cases, I have reached the following conclusions:

Omite 30W should be packaged in such a manner that the product goes directly in the mix tank without coming into contact with skin or eyes. The number of injuries of this type are unacceptably high and a corrective measure such as water-soluable packaging is available.

At least a 10 day safety interval should be imposed on all field uses of all products containing Omite. I talked to one physician in Bakersfield who in the past few weeks had cared for more than 100 field workers from vineyards who had skin and eye problems from exposure to foliage which had been treated with Omite 3 - 7 days preceding worker contact.

S A Peoples, M.D.

State of California

Memorandum

**To : D. W. Dean, Program Supervisor
Agricultural Chemicals and Feed**

Date: October 6, 1975.

Place: Sacramento

Telephone 5-8474

**From : Department of Food and Agriculture - K. T. Maddy, Staff Toxicologist
Agricultural Chemicals and Feed**

Subject: Omite

Dr. A. Millehner, Manager for Research and Development of Agricultural Chemicals for Uniroyal talked to me at length concerning safety problems with Omite. In summary I said that the problems were of such magnitude that effective January 1, 1976, Omite 30W would have to be in water soluble packets or to have undergone some other appropriate safening procedure.

I said we plan to impose a ten day safety interval on all field uses of all types of Omite preparations because of the large number of field worker problems we are having with eye and skin damage.

Dr. Millehner will attend the meeting on October 14.

KTM:10-12A/1

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Memorandum

To : Delvan W. Dean, Program Supervisor
Harold G. Alford, Consultant
Keith T. Maddy, Staff Toxicologist
S. A. Peoples, Medical Consultant

Date : October 24, 1975

Place: Sacramento

Telephone: 445-8474

From : Department of Food and Agriculture - William J. Thomas
Inspector

Subject: October 14 Meeting Concerning Pesticide Exposure Problems Involving Omite

On October 14, 1975, a meeting was held in the office of Dr. Keith T. Maddy, Staff Toxicologist, concerning the dermal and eye problems associated with the use of Omite. Attending the meeting were:

Dr. Alfred W. Mitlehner, Ph.D., Uniroyal, Manager, Agricultural Chemicals
Mr. J. Randall Jones, Uniroyal, Western Regional Manager
Mr. Donald C. Scott, Uniroyal, Western Regional Development Manager
Mr. Glen W. Forister, Uniroyal, Area Supervisor
Mr. Delvan W. Dean, Program Supervisor, Agricultural Chemicals and Feed
Mr. Harold W. Alford, Consultant, EPA, Agricultural Chemicals and Feed
Dr. Keith T. Maddy, Staff Toxicologist, Agricultural Chemicals and Feed
Dr. S. A. Peoples, Medical Consultant, Agricultural Chemicals and Feed
Mr. William J. Thomas, Inspector, Agricultural Chemicals and Feed

Dr. Keith Maddy set the background of the meeting by referring to 1) the pesticide illness reports we have received through the official reporting system which have involved Omite, 2) E.P.A. involvement and recent label upgrading in toxicity categories, 3) the concerns and position of the California Department of Health, 4) our recent personal interview survey of applicators in the San Joaquin Valley and 5) reports of physicians in the San Joaquin Valley who have stated that they have treated numerous cases of field workers for Omite-related dermatitis. One physician handled more than 100 cases.

Dr. Maddy explained that human illness problems due to Omite have developed in two separate areas. First are the eye and skin damage problems of the mixer/loader/applicators. We suggested either modification of dust particle size or type or changes in containerization, such as by water soluble packaging. Second, is the problem of dermatitis in field workers which we intend to resolve by implementing a 10-day safety interval in all crops.

Dr. Mitlehner stated that they realized their product caused eye problems and some dermal problems, but they were very hesitant to begin packaging in soluble bags as they are not yet convinced that major problems affect the worker during the mixing/loading phase as opposed to the applicating phase of the operation. Use of soluble bags would have little effect on applicator problems if that is where they persist.

Dean, Alford, Maddy, Peoples

Page Two

October 24, 1975

Mr. Thomas stated the nature of our San Joaquin study involving pest control operators and related that most of those pest control operators who have experienced problems indicated that pesticide illness incidents involve the mixer/loaders. Mr. Thomas also alluded to other facts which give implied support to the position that the problem primarily involves mixer/loaders.

Discussion centered on whether we could adequately document mixer/loader involvement on the one hand and on the other hand justify the 15-25 cent per pound alledged increase in cost of soluble packaging. The Department's position was stated by Dr. Maddy that by January 1, 1976, we would expect the "dusting problem" of Omite 30W to be corrected.

A brief discussion centered upon the adoption of a 10-day Worker Safety reentry interval and the Uniroyal representatives generally took little issue with the 10 days interval other than for the crop, strawberries. They did express a reservation of applying this interval to all crops when we cannot yet relate specific illness data concerning field workers in all crops.

The meeting closed with Dr. Mitlehner agreeing to draft a position of intent as to what plans Uniroyal will take and a schedule as to when they may implement them. Included might be educational programs, formulation changes, soluble bags or other containerization, stronger packages which will not break or rip open as well as all other combinations of alternatives which may be suggested. The Department agreed to work with Uniroyal on this matter and discuss with the Department of Health the position of intent once received from Uniroyal. The Department will, in the meantime, move ahead on the regulation changes establishing a 10-day safety interval for Omite.

cc: Dean
Alford
Maddy
Thomas
Paynter
Kahn/Scott
F. Sanders
Peoples



DEPARTMENT OF FOOD AND AGRICULTURE

1220 N Street
Sacramento
95814

For Information call:
(916) 445-8400

30 October 1975

Mr. Frank T. Sanders
(WH 567)
Registration Division
U.S. Environmental
Protection Agency
401 M Street, S. W.
Waterside Mall East #124
Washington, D. C. 20460

Dear Mr. Sanders

Pursuant to your recent discussions with Mr. Delvan Dean, Program Supervisor of our staff we are sending to you the enclosed notes taken at a meeting involving representatives from Uniroyal Chemical Company and personnel of the California Department of Food and Agriculture where we discussed dermal and eye problems associated with the use of the pesticide Omite.

We have sent a copy of a survey we preformed on the Omite situation to Dr. Orville Paynter, Chief of Toxicology Branch, EPA Washington. Due to the voluminous nature of this report, we direct you to this copy rather than sending a second report.

Sincerely

A handwritten signature in cursive script that appears to read "Wm. J. Thomas".

Wm. J. Thomas
Inspector
Agricultural Chemicals and Feed

Attachment

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State of California

Memorandum

To : R. G. Rollins, Supervisor of Registration
Agricultural Chemicals and Feed

October 30, 1975

Date:

Sacramento

Place:

Telephone: 5-2741

✓ K. T. Maddy, Staff Toxicologist
Agricultural Chemicals and Feed

From : Department of Food and Agriculture - D. W. Dean, Program Supervisor
Agricultural Chemicals and Feed

Subject: Correspondence and Memo Regarding Pesticides Which Have Caused Injury
or Reports of Injury

It is essential that all concerned parties be kept up to date regarding negotiations, conversations, memorandums and correspondence pertaining to injury episodes. Copies are needed for Enforcement (Betts), Product Quality (Nash), Registration (Rollins), and Pesticide Safety (Maddy). EPA/San Francisco and EPA/Washington also will need to be kept informed of our negotiations and actions. Particularly EPA/Washington has asked copies be sent to Toxicology (Dr. Paynter) and Registration (Harrison or Frank Sanders). Today, Mr. Frank Sanders informed me he is in correspondence with Athena Corporation (ECHOES ROACH BAIT) and Boyle Midway (ANT SYRUP and ANT KILLER). Frank Sanders needs information as to our negotiations with these two firms as he is considering cancellation of both of these products. Also, Frank Sanders needs a copy of the memo describing our conversations with Uniroyal pertaining to the dermatitis injuries caused by Omits and/or Comite.

cc W. Betts
S. Nash

DWD/9-AA/4

cc Antel
ECHOES
Boyle

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State of California

Memorandum

To : D. W. Dean, Program Supervisor
Agricultural Chemicals and Feed

Date : December 5, 1975

Place: Sacramento

Telephone: 5-8474

From : Department of Food and Agriculture - C. S. Kahn
Agricultural Chemicals and Feed

Subject: Method of Comparing Dustiness of Different Dry Powders

The attached test procedure is a suggested empirical method of comparing the dustiness of dry powders. This test method is a first attempt at comparing powder dustiness and is perhaps an overly simplified test apparatus. The following suggested improvements should make the test method a more acceptable method of comparing the dustiness of different powders:

1. Reexamination of the test chamber dimensions to establish the effect of chamber size on reproducibility of test data.
2. Establishment of a constant rate powder feed system.
3. Investigation of the possible advantages of a constant rate suction system as applied to the test filters (thus minimizing the effect of filter coating on air flow rate thru the filter).

Attachment

cc: K. Maddy

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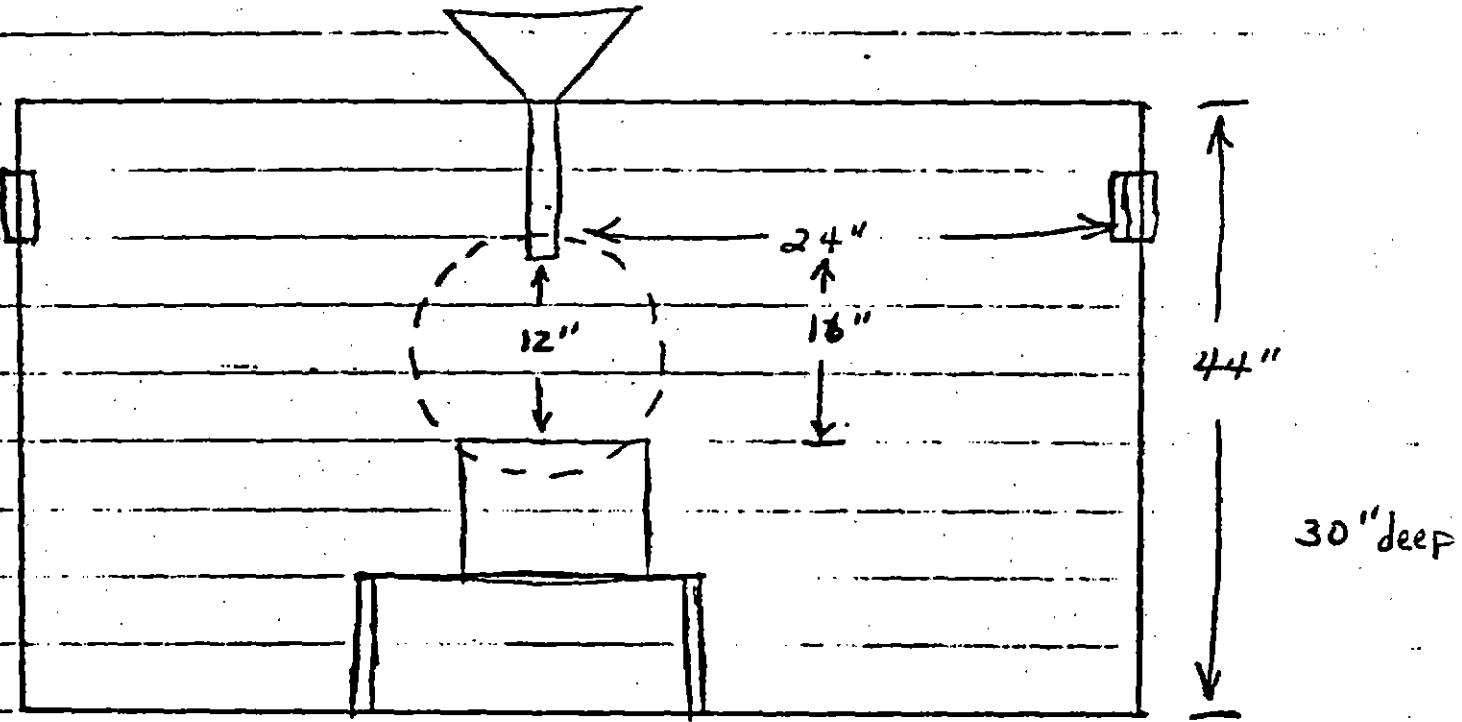
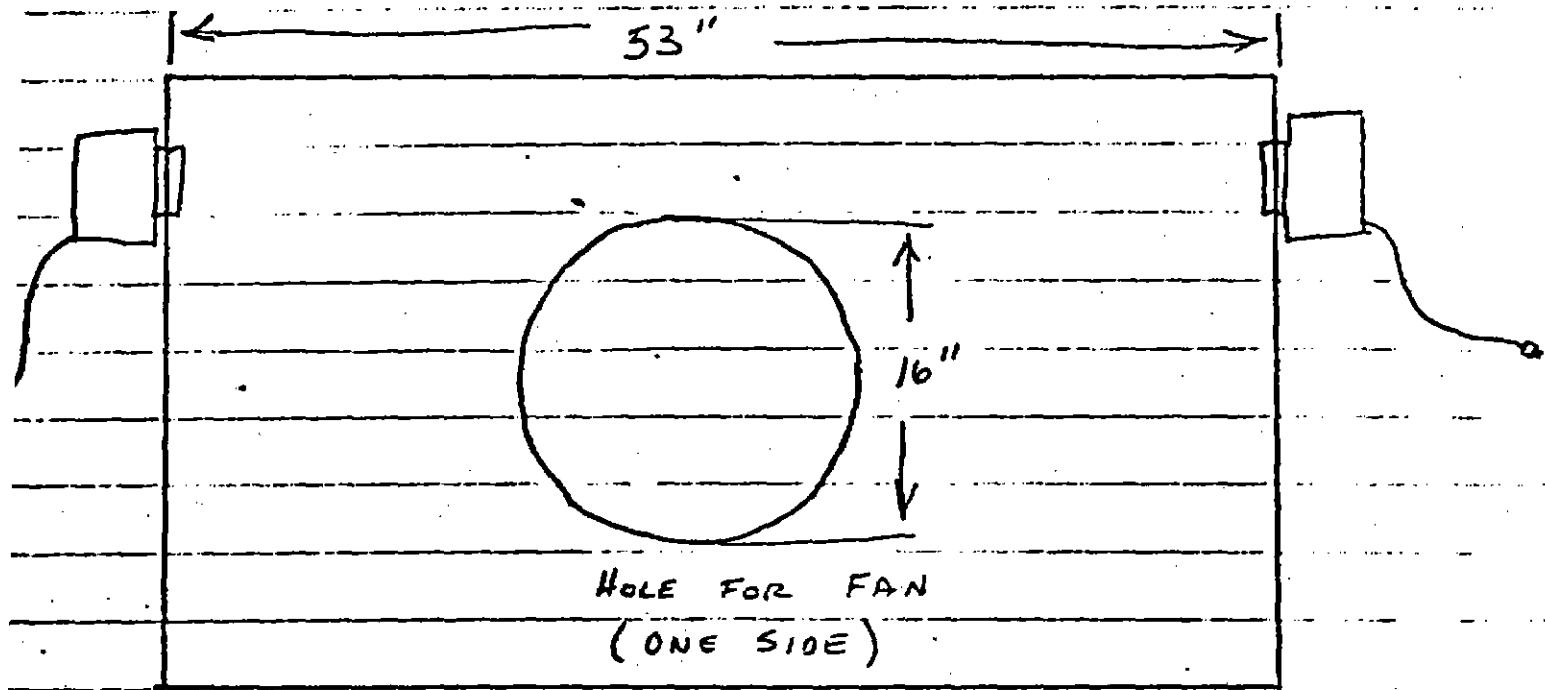
<u>Material</u>	<u>Total Amount Poured</u>	<u>Pouring Time</u>	<u>Sample #</u>	<u>Net Amount Deposited</u> (milligrams)	* <u>Total Air Vol.</u> (ft ³)
# 1	2.0 lb	1 min	1	1094.80	38
			2	800.40	32
# 2	2.0 lb	1 min	3	930.37	36
			4	871.56	33
# 3	1.75+ 1b	1 min	5	72.20	65
			6	55.30	59
+Total Amount Available					
# 4	2.0 lb	1 min	7	131.50	62
			8	141.20	68

* Flow rate was read before pouring started and after pouring was completed (1 minute). Loading of filter caused decrease in flow rate. Total air flow was computed assuming a linear decrease in flow for the first minute and a constant flow for remainder of sampling period. Total sampling time was 3 minutes.

i.e. Sample 1, Total Air Flow = 26 cfm (initial reading) + 10 cfm (after loading) + 2 = 18 cfm ave. for 1st minute plus 10 cfm x 2 for last 2 minutes gives total flow = 18 + 20 = 38 ft³

We have empirically determined that a product that produces less than 100 milligrams deposit will have a low illness-producing potential.

SAMPLE Box



24.



UNIROYAL CHEMICAL
Division of UNIROYAL, Inc.
Agricultural Chemicals
Research and Development
Bethany, Connecticut 06525
203-393-3640

December 23, 1975

Mr. John C. Hillis, Chief
Agricultural Chemicals and Feed
State of California
Department of Food and Agriculture
1220 N Street
Sacramento, California 95814

Dear Mr. Hillis:

It is Uniroyal's understanding that, as a result of the programs discussed at the December 1 meeting between Uniroyal and the California Department of Food and Agriculture, Omite will be reregistered in California for 1976. This reregistration is predicated upon Uniroyal's agreement to accomplish the following items which apply to all Omite-30W made in 1976.

1. A formulation change will be made which will reduce the dustiness of the current Omite-30W formulation. The change may include modifications in the way the product is physically put together and/or minor changes in the inert ingredients which will not require a new federal label approval.
2. Omite-30W five-pound bags will no longer be packaged in baler bags. The baler bags will be entirely replaced with rigid cardboard containers which will eliminate the possibility of anyone reaching into dusty containers.
3. During the packaging operation, the individual five-pound bags of Omite-30W will be more carefully sealed and the top folded over to provide a dust-free zone for opening.
4. All Uniroyal sales to distributors in California in 1976 will be accomplished with Omite-30W made and packaged according to the previously mentioned criteria. This should assure that inventories on hand in the field will be depleted by July 1.

25-

Mr. John C. Hillis

December 23, 1975

5. Uniroyal will conduct a visual education program for farm managers to educate them as to the correct methods of handling and applying Omite-30W. Emphasis will be placed on the use of safety equipment such as goggles and rubber gloves to reduce the potential for eye and skin irritation problems when mixing. Proper application procedures to reduce contact with spray drift will also be stressed.

In addition to the above items, Uniroyal will test, on an experimental basis, such packaging alternatives as a larger bag which insures an increased dust-free zone, as well as reduces the number of possible exposures. A 10,000 pound experimental run will also be made with either a Valeron or Typar unbreakable bag. If any of these modifications are proven successful, they will be considered for inclusion in our 1977 production.

Uniroyal will continue its program to develop a "low dust" wettable powder. It is our desire to field test in 1976 a formulation which would be considered either "low dust" or "dustless." If this product demonstrates desirable activity against spider mites with appropriate safety to crops, Uniroyal will proceed with development of performance, residue and handling toxicology information necessary for its registration.

As a result of California's interest in human health problems, as they might be related to the use of pesticides, Uniroyal is reviewing protocols from various laboratories which deal with the question of skin sensitization. We are also involved in the development of information which would accurately determine actual exposure levels to workers during mixing and loading, application and reentry. It is our intent, as previously discussed with Dr. Maddy, to review our plans with the Department of Food and Agriculture shortly after the turn of the year.

I would like to take this opportunity to thank you and your staff for your cooperation in setting up a program to deal with Omite irritation problems, which is both effective as well as reasonable. You can be certain that it is Uniroyal's desire to have its product sold and used in the safest possible manner.

Please do not hesitate to let me know if you have any questions on the content of this letter.

Sincerely yours,

UNIROYAL Chemical
Division of UNIROYAL, Inc.

26
A.W. Mitlehner, Manager
Agricultural Chemicals
Research and Development

1220 N Street
Sacramento
95814

December 26, 1975

Dr. A. W. Mitlehner, Manager
Agricultural Chemicals
Research and Development
Uniroyal Chemical
Bethany, Connecticut 06525

Dear Dr. Mitlehner

This is to summarize the meeting with the staff members of your company who met with us here on December 17, 1975.

We discussed the magnitude of the skin and eye injury problems in persons exposed to propargite (Omite) here in California.

We will continue registration of products containing this material in 1976, but we are taking certain restrictive actions and your company will be taking several corrective actions. We are planning by regulation to make all products containing Omite to be restricted materials requiring a permit. This regulation is expected to go into effect in May 1976. We are placing a safety interval of 14 days, by regulation, on all applications of products containing Omite on citrus, peaches, nectarines, grapes and apples. This regulation also is expected to become effective in May 1976.

Your company has agreed not to move any more Omite 30W into California as formulated and packaged in 1975. Existing stocks of this product manufactured in 1975 are expected to be used early in the season and prior to the onset of hot weather. A somewhat less dusty formulation and new packaging, as demonstrated to us, will be used for all stocks moved into California in 1976. The dusting potential of this new material, as compared with the previous product, are to be tested by the method provided by us and the results are to be reported to us.

During 1976, it is our understanding your company will conduct further work on lowering the dusting potential of Omite 30W; that work will proceed on a flowable preparation for possible field trials in 1977; and that animal studies will be completed in the next few months to determine the sensitization potential of propargite.

Page Two
December 23, 1975

Please consider the feasibility of conducting human exposure worker reentry studies this coming year and discuss any proposed program with us before proceeding with such studies.

Your comments on the items covered in this letter will be appreciated.

Sincerely

John C. Millis, Chief
Agricultural Chemicals and Feed
Phone (916) 445-5343

KLM/DD/0/5/4/5

bcc: Dr. O. Paynter
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January 30, 1976

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RICHARD A. WELLER
FRANCIS A. MCANANEY, JR.
FREDERICK L. MILLER
BRUCE F. JACOBS
DAVID C. THOMAS
PHILIP RODMAN

AIR MAIL

Mr. John C. Hillis,
Chief
Agricultural Chemicals and Feed
Department of Food and Agriculture
State of California
1220 N Street
Sacramento, California 95814

Re: Exposure to Propargite (Omite)

Dear Mr. Hillis:

We are general attorneys for Uniroyal, Inc.

By letter dated September 17, 1975, you forwarded to Uniroyal Chemical, Division of Uniroyal, Inc., a summary of the apparent circumstances surrounding some thirty-odd cases of farm worker illnesses reported by physicians during 1974. Your letter indicated that all reported cases were investigated and that in each case of illness the farm worker was exposed to Omite. Your letter also stated that there were indications that a greater number of similar illnesses would occur in 1975, and that a number of illnesses which were not brought to the attention of a physician were reported by other persons.

As you know, Uniroyal is vitally interested in the current California proposal to add products containing propargite to the list of restricted materials designated by the Director of the Department of Food and Agriculture. Uniroyal therefore has a direct interest in obtaining all relevant information which bears upon the possible involvement of Omite in causing worker illnesses. Such information would be very helpful in enabling Uniroyal to determine whether and to what extent changes should be made in the

Mr. John C. Hillis -2-

January 30, 1976

product or the suggested method of its use. Accordingly, I hereby request that the following information be made available to me at your convenience, but at the earliest practicable time:

- (1) All reports of farm worker illness allegedly involving propargite made by physicians beginning January 1, 1974 and continuing to the present time.
- (2) All reports of farm worker illness allegedly involving propargite made by persons other than physicians beginning January 1, 1974 and continuing to the present time.
- (3) All investigative reports resulting from the investigations made of the reported cases of worker illness.
- (4) All communications between the Department of Food and Agriculture and the Department of Health relating to the possible involvement of propargite in causing worker illness.

By copy of this letter I am making an identical request for information from the appropriate Department of Health officials. I am prepared to make whatever arrangements you desire concerning the actual physical transmission of the information to me. Please advise me as to what manner of transmission you desire be employed in fulfillment of this request.

Sincerely yours,



Ira J. Krakower

IJK:kas

cc: Ephraim Kahn, M.D.
Chief
Epidemiological Studies Laboratory
State Department of Health

ARTHUR, DRY & KALISH
1230 AVENUE OF THE AMERICAS
ROCKEFELLER CENTER
NEW YORK, N. Y. 10020

TELEPHONE: 489-4510
AREA CODE: 212
CABLE ADDRESS: ADROLAW

January 30, 1976

AIR MAIL

Ephraim Kahn, M. D.
Chief
Epidemiological Studies Laboratory
State Department of Health
12151 Berkley Way
Berkley, California 94704

Re: Exposure to Propargite (Omite)

Dear Dr. Kahn:

Enclosed is a copy of a letter I have sent today to Mr. John C. Hillis of the Department of Food and Agriculture, in which I request that he forward me certain information bearing upon the alleged involvement of propargite in causing farm worker illnesses in California.

I understand that the Department of Health may possess similar information, and I would appreciate your considering the enclosed copy of my letter to Mr. Hillis as a separate request made to the Department of Health for the information therein identified.

Sincerely yours,

Ira J. Krakower

IJK:kas

cc: Mr. John C. Hillis
Chief, Agricultural
Chemicals and Feed
Department of Food
and Agriculture

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UNIROYAL CHEMICAL
Division of UNIROYAL, Inc.
1625 East Shaw Avenue Suite F-170
Fresno, California 93710
(209) 224-8910

January 29, 1976

Mr. John C. Hillis
Chief, Agricultural Chemicals
and Feed
State of California
Department of Food & Agriculture
1220 "N" Street
Sacramento, California 95814

Dear Mr. Hillis:

Thank you for the opportunity to meet with you last week. As we discussed, Uniroyal has chosen Mr. Robert E. Grahame, our Market Development Specialist to coordinate our efforts with respect to Omite's inclusions to the proposed amendments of the regulations concerning worker safety. Bob's address is:

Uniroyal Chemical
Division of Uniroyal, Inc.
Spencer Street
Naugatuck, Connecticut 06770

(203) 723-3224

I will be the primary contact man in California and can be reached at the letterhead address above.

Obviously a situation such as this requires the inputs from many specialized areas and decision making levels, so as in the past, others from our company will also be actively involved.

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UNIROYAL CHEMICAL
Division of UNIROYAL, Inc.
1625 East Shaw Avenue Suite F-170
Fresno, California 93710
(209) 224-8910

Mr. John C. Hillis
Page two

Again, I enjoyed my visit and if there is anything that requires
clarification please contact Bob or me.

Sincerely,

A handwritten signature in black ink, appearing to read "Tom Schmidt".

J. Thomas Schmidt
Regional Manager
Sales Development

JTS/mf

cc: file
RWN
REG

DEPARTMENT OF HEALTH

2151 BERKELEY WAY
BERKELEY 94704

(415) 843-7900



February 11, 1976

Mr. Ira J. Krakower
Arthur, Dry and Kalish
1230 Avenue of the Americas
Rockefeller Center
New York, New York 10020

Dear Mr. Krakower:

In reply to your request for material concerning Omite, I am enclosing a copy of our breakdown of cases of occupational illness in 1974 attributed to this compound. The analysis of the 1975 data is not yet complete.

Most field investigations of pesticide-related illness are reported to the Department of Food and Agriculture and they can presumably supply you with the details. I assume you realize that medical reports are privileged information and therefore confidential. It is therefore impossible to give you the names and case records of individual patients.

I find no written communication between this Department and the Department of Food and Agriculture on the subject of Omite except for a section of the enclosed memo of November 20, 1975 on "Revision of Worker Safety Pesticide Regulations" (see last paragraph on page 2). There has, however, been considerable communication by telephone and in personal meetings between staffs of the two departments.

Sincerely,

Ephraim Kahn, M.D.
Chief, Epidemiological Studies
Laboratory

EK:fb

Enclosures (2)

cc: John Hillis ✓



UNIROYAL CHEMICAL
Division of UNIROYAL, Inc.
1625 East Shaw Avenue Suite F-170
Fresno, California 93710

(209) 224-8910

February 17, 1976

William J. Thomas
Department of Food & Agriculture
Division of Inspection Services
Agricultural Chemicals & Feed
1220 "N" Street
Sacramento, California 95814

Dear Bill,

I have enclosed a copy of the summary of 1974 Injury Reports. I would suggest that you review the last two columns for accuracy and completeness before forwarding to our lawyers. If there are any corrections or additions I would appreciate it if you would notify me.

Thanks for taking the time to let me compile this list.

Sincerely

A handwritten signature in black ink, appearing to read "J. Thomas Schmidt".

J. Thomas Schmidt
Regional Manager
Sales Development
Agricultural Chemicals

JTS/mf

enclosure

cc: file

State of California

Memorandum

To : K. T. Maddy
A. G. Forbes
J. C. Hillis
W. A. Betts
R. A. Rutz
R. G. Rollins
J. B. Knaak
C. J. Strickler

Date : 26 February 1976

Place: Sacramento

Telephone: 445-8474

From : Department of Food and Agriculture - Wm. J. Thomas, Inspector

Subject:

Tom Schmidt of Uniroyal Chemical Company requested a meeting Friday 5 March 1976 to discuss progress in their program to safen the use of products containing propargite (Omite/Comite).

Uniroyal feels they have already attained certain results concerning modification of packaging and particle formulation as well as development of a safety program. Skin sensitivity studies are not yet completed, however, they would like to give us a progress report. Uniroyal intends to have the studies completed by the date of the public hearing on the proposed regulations. This meeting will be held in John Hillis' office 9:00 a.m. Friday 5 March 1976.

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UNIROYAL CHEMICAL
Division of UNIROYAL, Inc.
Agricultural Chemicals
Research and Development
Bethany, Connecticut 06525
203-393-3640

February 27, 1976

Mr. John C. Hillis, Chief
Agricultural Chemicals and Feed
State of California
Department of Food and Agriculture
1220 N Street
Sacramento, California 95814

Dear Mr. Hillis:

The objective of this letter is to update you on our progress concerning the items outlined in my letter of December 23, 1975 to you.

1) Two substantially less dusty OMITE-30W alternate formulations are currently undergoing final biological and formulation evaluation. Alternate composition statements for both formulations have been submitted to the U.S. Environmental Protection Agency. Initial tests indicate that both formulations are substantially less dusty than the OMITE-30W produced in 1975.

2) A rigid cardboard container has been designed which allows for the easy removal of individual 5 lb. bags of OMITE-30W. This container completely negates the exposure to which workers were previously exposed as they reached inside a baler bag to remove each bag of product. These containers will be utilized for the 1976 OMITE-30W production.

3) Arrangements have been made to more carefully seal OMITE-30W bags during the packaging operation. This should help insure a dust-free zone for opening.

4) We are scheduled to start production of a less dusty formulation in early April. All Uniroyal sales after April 15th of OMITE-30W to distributors in California will be accomplished with this formulation.

5) A visual education program for farm managers has been devised. This program will consist of a slide presentation and suitable written material to be distributed to those in attendance. A copy of the brochure presently in use is attached. An abbreviated version of this brochure will be prepared and distributed at OMITE-30W points of sale.

Mr. John C. Hillis, Chief

- 2 -

February 27, 1976

6) Samples of a Typar unbreakable bag and two types of bags with tear strips to allow easy opening have been selected for small scale evaluation by our personnel. As a result of this evaluation, one type of bag will be selected for a 10,000 pound experimental run of OMITE-30W. This program will be conducted during July or August due to the long lead time necessary to schedule production of a new type bag.

7) A skin sensitization test protocol has been selected for OMITE-30W. We expect the results of this test to be available shortly.

8) We are still considering the feasibility of conducting re-entry studies. At this time we are leaning toward the development of information in the area of transferable residues from plants to humans, rather than direct human exposure studies. We do intend to discuss any such program with you before we finalize our thoughts.

In summary, I believe the program outlined in my letter of December 23, 1975 is on schedule and will be effective in substantially reducing OMITE irritation problems in California.

Please advise me if you have any additional questions on our progress in this matter.

Sincerely yours,

UNIROYAL CHEMICAL
DIVISION OF UNIROYAL, INC.



A. W. Mitlehner, Manager
Agricultural Chemicals
Research and Development

AWM/f
enc1.



UNIROYAL CHEMICAL
Division of UNIROYAL, Inc.
Agricultural Chemicals
Research and Development
Bethany, Connecticut 06525
203-393-3640

March 8, 1976

Dr. Keith T. Maddy
Department of Food & Agriculture
1220 N Street
Sacramento, California

Dear Dr. Maddy:

The skin sensitization test on guinea pigs for OMITE as agreed to by Dr. A.E. Smith of Uniroyal and Dr. Andrew Peoples was completed on Friday, March 5, 1976, at Industrial Bio-Test, Northbrook, Illinois. The results of this test show that OMITE is not a skin sensitizer.

The planned completion date of the report on this test is March 24, 1976. We will forward a copy to you at that time.

During verbal conversations between Uniroyal and Russian representatives of the Toxicology Institute in Kiev, USSR, it was indicated that OMITE applications produced no skin sensitization or allergy responses. These results have not been published and will not be released by them until they are published.

Sincerely,

UNIROYAL CHEMICAL
DIVISION OF UNIROYAL, INC.

A handwritten signature in black ink, appearing to read "A. W. Mitlehner".

A. W. Mitlehner, Manager
Agricultural Chemicals
Research and Development

AWM/f

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SUMMARY OF HUMAN OCCUPATIONALLY ACQUIRED ILLNESSES REPORTED IN 1974 BY PHYSICIANS

<u>IN CALIFORNIA AS DUE TO EXPOSURE OF OMITE OR COMITE</u>							
<u>NO.</u>	<u>COUNTY</u>	<u>CROP</u>	<u>PRODUCT</u>	<u>OTHER PRODUCT</u>	<u>DATE</u>	<u>CATEGORY</u>	<u>SYMPTOMS</u>
1. MERCED		PEACHES	OMITE-30W	SULFUR AND IMIDAN	7/1/74	GROUND APPLICATOR	CONTACT DERMATITIS ON NECK AND ARMS
2. MERCED		Grapes	OMITE-30W	None listed	8/15/74	GROUND APPLICATOR (SOAKED BODY WHEN CLEANING PLUGGED NOZZLE)	CONTACT DERMATITIS Neck, arms & throat
3. SAN BERNARDINO	Citrus	Omite 30W	None listed		4/29/74	GROUND APPLICATOR (mixing CHEMICALS)	RASH ON NECK, ARMS AND EYELIDS
4. TULARE	Peaches	Omite 30W	Spreader		7/22/74	GROUND APPLICATOR (WIND BLEW CHEMICAL ON HIM)	FIRST DEGREE CHEMICAL BURNS ON NECK AND ARMS
5. TULARE	COTTON	COMITE	COMITE		7/5/74	GROUND APPLICATOR Drift of mist on to body.	CONTACT DERMATITIS ON RIGHT EYELID, SCROTUM AND NECK
6. FRESNO	Trees (?)	OMITE(?)	BENLATE 30W		7/8/74	GROUND APPLICATOR (CHEMICAL DRIFTED INTO EYES)	ALLERGIC CONJUNCTIVITIS
7. KERN	Roses	OMITE (?)	None listed	30W	7/19/74	GROUND APPLICATOR (WIPED FACE WITH SHIRT & GOT OMITE IN EYES)	CHEMICAL CONJUNCTIVITIS
8. ORANGE	Strawberries	OMITE-30W	DIBROM		5/3/74	GROUND APPLICATOR (OPENING BAGS AND SPRAYING OMITE AND DIBROM GOT SOME IN EYES.)	BILATERAL CONJUNCTIVITIS

<u>NO.</u>	<u>COUNTY</u>	<u>CROP</u>	<u>PRODUCT</u>	<u>OTHER PRODUCT</u>	<u>DATE</u>	<u>CATEGORY</u>	<u>SYMPTOMS</u>
9.	FRESNO	GRAPES	OMITE-30W	SULFUR	7/6/74	GROUND APPLICATOR (SPRAY DRIFTED INTO EYES)	BILATERAL CHEMICAL CONJUNCTIVITIS AND PERIOCULAR DERMATITIS
10.	MERCED	Walnuts	OMITE 30W	ZOLONE	6/21/74	GROUND APPLICATOR (MIXING, SPRAYING AND LOADING OMITE AND ZOLONE)	INHALATION OF SPRAY
11.	VENTURA	None listed	OMITE	PHOSDRIN	4/12/74	GROUND APPLICATOR (SPRAYING PHOSDRIN AND OMITE)	PHOSPHATE POISONING
12.	FRESNO	{ Grapes ALMONDS	Not used OMITE	Sulfur None listed	7/29/74	GROUND APPLICATOR (SPRAYING OMITE, HAD ALSO USED SUL- FUR ON GRAPES)	DERMATITIS ON CHEST ANKLES AND LEGS
13.	KERN	PEACHES	OMITE-30W	ZNP	7/26/74	GROUND APPLICATOR (SPRAYING OMITE & ZNP)	CONTACT DERMATITIS ON back
14.	KERN	ALMONDS	OMITE	ZNP & GUTHION	6/21/74	GROUND APPLICATOR (SPRAYING OMITE, ZNP AND GUTHION)	GENERALIZED RASH/Reporting MI does not attribute to Omite/
15.	KERN	None listed	OMITE 30W	None listed	6/11/74	GROUND APPLICATOR	RASH ON NECK, CHEST AND ARMS
16.	KERN	Grapes	OMITE	DIBROM	7/18/74	GROUND APPLICATOR (DRIVING SPRAY RIG AND GOT OMITE AND DIBROM ON BOTH ARMS)	DERMATITIS ON BOTH ARMS

<u>NO.</u>	<u>COUNTY</u>	<u>CROP</u>	<u>PRODUCT</u>	<u>OTHER PRODUCT</u>	<u>DATE</u>	<u>CATEGORY</u>	<u>SYMPTOMS</u>
17.	KINGS	Cotton	OMITE/Comite	None listed	7/15/74	GROUND APPLICATOR (SPRAYING OMITE)	RASH, (chest & thighs)
18.	MERCED	PEACHES	OMITE-30W	POTASSIUM NI- TRATE AND BASIC COPPER SULFATE	5/28/74	GROUND APPLICATOR (SPRAYING OMITE, POTASSIUM NITRATE AND BASIC COPPER SULFATE)	CONTACT DERMATITIS ARMS
19.	MERCED	PEACHES	OMITE-30W	SULFUR AND IMIDAN	7/?/74	GROUND APPLICATOR (SPRAYING OMITE SULFUR AND IMIDAN)	CONTACT DERMATITIS - NECK AND ARMS
20.	KERN	None listed	OMITE	None listed	3/17/74	GROUND APPLICATOR (GOT OMITE IN EYES)	CHEMICAL CONJUNCTIVITIS - EYES - ANTECUBITAL FOSSAE -
21.	KERN	Almonds	OMITE	None listed	2/25/74	GROUND APPLICATOR (WIPED HIS FACE WITH HIS SLEEVE AND GOT OMITE IN HIS EYES)	CHEMICAL CONJUNCTIVITIS AND DERMATITIS OF FORE- LEGS AND GROIN
22.	TULARE	Almonds	OMITE 30W	None listed	6/15/74	GROUND APPLICATOR (OMITE GOT IN EYES) while mixing	CHEMICAL CONJUNCTIVITIS AND CHEMICAL DERMATITIS
23.	KERN	Almonds	OMITE 30W	None listed	6/24/74	MIXER - LOADER (WORKED WITH OMITE)	RASH ON ELBOW, WRIST AND ESPECIALLY NECK
24.	TULARE	COTTON	COMITE	Nutra-Aid	6/28/74	GROUND APPLICATOR (WIND BLOW SPRAY INTO EYES)	CHEMICAL CONJUNCTIVITIS -
25.	FRESNO	Grapes	OMITE	None listed	7/26/74	MIXER - LOADER (LOADING SPRAYER - OMITE DRIFTED ONTO HIM)	ERYTHEMATOUS POPULAR RASH OF RIGHT FOREARM AND ABDOMEN

<u>NO.</u>	<u>COUNTY</u>	<u>CROP</u>	<u>PRODUCT</u>	<u>OTHER PRODUCT</u>	<u>DATE</u>	<u>CATEGORY</u>	<u>SYMPTOMS</u>
26.	KERN	Grapes	OMITE 30W	None listed	8/3/74	MIXER - LOADER (DROPPED A CAN IN MIX TANK AND OMITE GOT IN EYES)	CHEMICAL CONJUNCTIVITIS
27.	KERN	None listed	OMITE Pwdr	None listed	6/ 19/74	MIXER - LOADER (MIXING OMITE AND IT GOT IN EYES)	HEAVY PUNCTATE STAINS
28.	TULARE	Almonds	OMITE	None listed	7/11/74	MIXER - LOADER (POURING OMITE FROM SACKS INTO A BOX, THEN DUMPING INTO HELICOPTER TANK)	BILATERAL CHEMICAL KERITITIS
29.	TULARE	Cotton	COMITE	Nutra-Aid	7/13/74	MIXER - LOADER (TRANSFERRING COMITE FROM NURSE RIG TO TRACTOR; GOT SPLASHED IN FACE)	CHEMICAL BURNS OF CORNEA
30.	KERN	Roses	OMITE-30W	BENLATE	8/2/74	APPLICATOR - SPRAYING ROSES WITH OMITE AND BENLATE OVER HER HEAD AND MIST FELL IN EYES	CHEMICAL CONJUNCTIVITIS -
31.	MERCED	None listed	COMITE	DIBROM	10/25/74	IRRIGATOR (WAS IRRIGA- NAUSEA, DIFFICULT SPEECH, TING, CROP DUSTER SPRAYED HIM, CAUSING EYES TO BURN)	WEAK AND SALIVATION
32.	TULARE	OMITE	SULFUR			CLEANING AND MACHINE REPAIR (CLEANING PESTICIDE EQUIPMENT, CHEMICAL GOT INTO EYES, EQUIPMENT HAD BEEN USED FOR APPLYING SULFUR AND OMITE)	CHEMICAL CONJUNCTIVITIS

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<u>NO.</u>	<u>COUNTY</u>	<u>CROP</u>	<u>PRODUCT</u>	<u>OTHER PRODUCT</u>	<u>DATE</u>	<u>CATEGORY</u>	<u>SYMPTOMS</u>
33.	KERN	Almonds	OMITE 30W	Diazinon	9/13/74	FIELD WORKER (WORKING IN ALMOND FIELD; LUMPS STARTED ON REAR AND SPREAD ALL OVER HIS BODY)	ALLERGIC DERMATITIS Reporting MD questions cause.
34.	VENTURA	STRAWBERRIES	OMITE 4-D	Benlate	4/1/74	FIELD WORKER (PICKING BERRIES AND DEVELOPED RASH ALL OVER BODY)	HIVES AND RASH ON ARMS AND NECK
35.	FRESNO	GRAPEs	OMITE-30W	SULFUR	7/6/74	GROUND APPLICATOR (SPRAYING WITH SULFUR AND OMITE, EXPOSED TO DRIFT)	CONTACT DERMATITIS
36.	None listed	None listed	Omite	GUTHION	None listed	EXPOSED TO OMITE AND GUTHION	SKIN CONDITION - TYPE UNKNOWN Follow-up investigation was not made.

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Telegram

SZC 137 (1518) (1-020785A068) PD 03/08/76 1515

TLX UNIROYLCH NATK

ZCZC 86 PD NAUGATUCK CONN 3/8/76 3 PM - RUSH RUSH

PMS DEPT OF FOOD & AGRICULTURE ATT KEITH MADDY

1220 N STREET

SACRAMENTO CALIFORNIA

THE SKIN SENSITIZATION TEST ON GUINEA PIGS FOR OMITE AS AGREED TO BY DR. A.E. SMITH OF UNIROYAL AND DR. ANDREW PEOPLES WAS COMPLETED ON FRIDAY MARCH 5, 1976 AT INDUSTRIAL BIO-TEST NORTHBROOK, ILLINOIS. THE RESULTS OF THIS TEST SHOW THAT OMITE IS NOT A SKIN SENSITIZER.

THE PLANNED COMPLETION DATE OF THE REPORT ON THIS TEST IS MARCH 24 1976. WE WILL FORWARD A COPY TO YOU AT THAT TIME.

DURING VERBAL CONVERSATIONS BETWEEN UNIROYAL AND RUSSIAN REPRESENTATIVES OF THE TOXICOLOGY INSTITUTE IN KIEV USSR, IT WAS INDICATED THAT

SF-1201 (RS-69)

OMITE APPLICATIONS PRODUCED NO SKIN SENSITIZATION OR ALLERGY RESPONSES

• THESE RESULTS HAVE NOT BEEN PUBLISHED AND WILL NOT BE RELEASED BY THEM UNTIL THEY ARE PUBLISHED

A W MITLEHNER

UNIROYAL CHEMICAL

NNNN

44

SF-1201 (RS-69)

State of California

Memorandum

To : John Hillis, Chief
Agricultural Chemicals and Feed

Date : March 10, 1976

Place: Sacramento

From : **Department of Food and Agriculture** - Keith T. Maddy, Staff Toxicologist

Subject: Proposed Worker Safety Interval following Applications of Omite

Following a preliminary examination of data on dermatitis problems in field workers on October 3, 1975, I recommended to you that we consider imposing a 10 day worker safety interval following certain applications of Omite. We have now reinvestigated the several field worker incidents that appeared to incriminate Omite as a probable causative agent. In each case it appears that sulfur also had been applied to the crop.

For lack of a clearly identified cause-effect relationship for Omite alone being a partial or complete cause of field-worker dermatitis cases, I withdraw this recommendation at this time. We will continue to study this situation.

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The Report of the Field Survey
Conducted in September 1974
Entitled:
"General Comments and Problems Raised
by Pest Control Operators
During the Recent Survey Conducted in
the Lower San Joaquin Valley Concerning Omite and Comite"

November 15, 1976

GENERAL COMMENTS AND PROBLEMS RAISED BY PEST CONTROL
OPERATORS DURING THE RECENT SURVEY CONDUCTED IN THE
LOWER SAN JOAQUIN VALLEY CONCERNING OMITE/COMITE

The following collection of comments and points raised by Pest Control Operators and Pest Control Advisors are divided as to general category and then merely listed rather than tied together in paragraph form. Such a listing allows the representation in the right hand column of the relative number of Pest Control Operators and Pest Control Advisors who independently raised such issues. It is not to be inferred that those who did not make such comments are not in agreement therewith because these are independently, voluntarily given and not raised in the conversation with those persons.

GENERAL COMMENTS

Firms who regard Omite/Comite as a major worker safety danger or nuisance. 4-5

Firms who primarily experienced eye exposure problems, as opposed to dermatitis. 2

Many firms believe the problems associated with this material are limited to the wettable powder formulation. 6

One firm directly opposed this by feeling even the dilute mist creates a problem.

Other firms had limited problems with the Emulsifiable Concentrate formulations (see chart) so it can be implied that they would not all subscribe to this comment; however, the general feeling is clearly that the problem is largely related to the wettable powders.

Many firms believe that the problems are related to the mixing/loading operations and do not affect the applicator or application equipment operator. 5

Two firms would be opposed as they believe that applicators are also vulnerable; however, these firms have operations where the same man does both operations and additionally one firm didn't appear to be very safety conscious and may run into trouble at every stage. On balance, it seems that the problem is generally limited to the mixer/loader operation and as was discussed in the opening remarks perhaps field workers.

A large percentage of the problems are experienced by persons who have continual exposure in terms of using Omite or Comite for several weeks in a row and are constantly around it during the day (mix/load constantly or do both the mixing/loading and the application). 4

Did not wear protective clothing or gear when the reactive exposure was experienced. 3

Believe the Department is too concerned with dermatitis-type problems and fear that if we continue to do so that it will force them to go with a more toxic form of miticide which would increase health hazards. 3

Firms who related that Comite/Omite is a very valuable miticide which should not be over restricted or cancelled. In grapes, it is regarded as the only effective miticide. 7

SPECIFIC RECOMMENDATIONS TO REDUCE PROBLEMS

Safety Provisions

Aggressive supervision of personnel handling Omite/Comite greatly reduces or eliminates exposure problems. 5

Attempt to get responsible experienced personnel and train them well. 3

Do not be in a big rush when handling pesticides during busy seasons. 3

Loading Application Procedures

If employees exercise good judgment and employ safe handling practices they will avoid most problems. 3

Use well designed mixing and application equipment constructed with ease of operation and safety in mind. 3

Do not use during hot temperatures and attempt to avoid sweating. 7

Try not to wipe sweat from face or touch other parts of your body with exposed surfaces or hands. 5

Wear all protective clothing and gear. 3

Do not wear long sleeve coveralls or other covering on the arms as it induces sweating and causes less frequent washing of arms. (A couple of pest control operators thought that this would be bad advice and long sleeve protection was advisable.) 3

Wash after any concentrate exposure. 2

Packaging

A better type of packaging the wettable powders is needed. The 30 wettable powder should come in 8 ounce dissolvable containers to eliminate dust particle exposure to the mixer/loader. (At least two large ground applicators have made this suggestion to Uniroyal representatives.) 5

Several operators feel that they need to be assured that an adequate supply of the same material in the same containers is available. 3

If this were the case, they could more specifically train their personnel and possibly make equipment adaptions which would accommodate a particular container. Whereas if you order Omite and one time it is in a large sack, next time in a small sack, and the third time in an emulsifiable concentrate formulation, you write worker safety problems into your operation.

Labeling changes are needed to have uniformity in the categorization of the pesticide. Presently Omite packages indicate anything from category 1 to category 3; hence much confusion exists. Even different Commissioners staff's treat the same materials somewhat differently. 4

A more explicit dermatitis warning would be helpful. Even some category 1 type packages don't really reflect that it is so classified due to extreme dermatitis dangers. 2

(One person would be opposed as he believes that the label warnings are ineffective.)

OTHER WORKER SAFETY PROBLEMS NOT RELATING TO COMITE
OR OMITE WHICH WERE RAISED BY PEST CONTROL OPERATORS
AND PEST CONTROL ADVISORS

1. One pest control operator was concerned about the amount of parathion that remained in coveralls after laundering. He would like information distributed suggesting effective laundering procedures.
2. One ground operator was worried about the use of concentrated dilutions and ultra low volume mixes where the dilute material still represents worker safety hazards.
3. Three different operators in eastern Tulare County related that their biggest worker safety problem is with the material Morestan. This material brings on acute dermal reactions.
4. One aerial operator spoke of a female flagger who would break out in small blisters after exposure to paraquat. She never had difficulties around other chemicals, but could never work around paraquat.
5. Two operators stated that they have dermatitis problems when handling Dibrom 7 Dust. One company had one man who can never be close to this material without adverse dermal effects.
6. One pest control operator stated that their largest problem is the offensive and noxious odor caused by the pesticide Defend.
7. One person who is both a pest control operator and a pest control adviser stated that he feels that there are going to continue to be worker safety problems associated with the parathion applications to control red scale as long as parathion is used.
8. The pest control adviser/pest control operator listed in point 7 above also stated that some of his colleagues and clients have indicated a concern as to Plictran use on almonds, peaches and nectarines as no worker safety interval has been established.

BRIEF TABULATION OF DATA OBTAINED FROM CONTACTS WITH PEST
 CONTROL OPERATORS IN THE LOWER SAN JOAQUIN VALLEY
 REGARDING COMITE/OMITE

Number of Productive Contacts

Ground Pest Control Operators	12
Aerial Pest Control Operators	15
Pest Control Advisers	<u>3</u>
	30

MATERIALS HANDLED

Ground Pest Control Operators

Handle Omite only	9
Handle Comite only	2
Handle both materials	0

Aerial Pest Control Operators

Handle Omite only	0
Handle Comite only	11
Handle both materials	4

PROBLEMS EXPERIENCED

Ground Pest Control Operators

Omite	No problems	4
	Single minor incident	0
	Severe or repetitive incidents	5

Comite	No problems	1
	Single minor incident	0
	Severe or repetitive incidents	1

Aerial Pest Control Operators

Omite	No problems	4
	Single minor incident	0
	Severe or repetitive incidents	0

Comite	No problems	13
	Single minor incident	2
	Severe or repetitive incidents	0

OMITE/COMITE-SAN JOAQUIN VALLEY SURVEY

TULARE COUNTY

20 August 1975

Mr. Everett Guinn of Tulare County Agricultural Commissioner's office accompanied me on our visits to pest control operators in their county.

Mr. Guinn and Jim Gilley searched through the use reports and determined that the vast majority of Omite used is Uniroyal 30 Wettable. There is also some 6E for use on hops and nuts applied by air.

They were aware that problems exist in the use of Omite/Comite but that their experience has shown that the severe cases have occurred when Omite has been used with other chemicals such as parathion, Guthion, ethion, and malathion. They are also concerned with Omite/Sulphur mixes.

Products which are also used for mite control are ethion, Cygon, Plictran, Galecron and Kelthane.

CROMS FLYING SERVICE
South of Visalia
Tulare County
20 August 1975

Mr. Crom reported that they use Omite and Comite occasionally, although the 1975 application volume has greatly decreased.

Mr. Crom said that they have experienced no problems of any nature in using Omite or Comite.

MOORE CROP DUSTING
Between Visalia and Tulare
Tulare County
20 August 1975

Mr. Bob Moore stated that he has not applied Omite but does a little Comite work. Mr. Moore asked a couple of his foremen if they knew of any problems and they responded that they did not.

Mr. Moore stated that he would contact Everett Guinn if he became aware of any miticide problems. He emphasized the dependence upon these miticides by local agriculture, even if he has not applied a great deal this season.

HICKMAN CROP DUSTERS
Tulare County
Ground Applicators
20 August 1975

Mr. Hickman said that they have only applied a single Comite application which presented no problem. Mr. Hickman had no knowledge of any skin problems with Comite. Mr. Hickman was concerned about overreaction to dermatitis cases.

FRY AVIATION INDUSTRIES

Tulare Airport

Tulare County

20 August 1975

Mr. Fry has applied a great deal of Comite (all Comite is liquid EC Uniroyal) and one Omite job with no reported problems.

VALLEY AVIATION

Tulare Airport

Tulare County

20 August 1975

The manager, Wayne, explained that they fly Uniroyal Comite on cotton, but that the only person ever affected was another manager who was also present. This person stated that he was loading at the time with no protection on his arms and he developed a blotch on his arm. This "blotch" disappeared soon thereafter and presented no further problem.

A pest control applicator for a chemical company was also present and stated that of all the growers with whom he dealt and sold these Uniroyal products for use on trees and vines with ground application, he had not heard of any problems.

On a different subject, Wayne stated that they once had a female employee who was very responsive to paraquat. Whenever she was exposed to this material in any fashion, she would develop small blisters on her arms. This unusual reaction reoccurred a couple of times and she was thereafter not allowed to work near any paraquat job.

LEFFINGWELL CHEMICAL COMPANY

Lindsay, California

Tulare County

20 August 1975

This chemical company handles a lot of Omite for use on orchards and have heard of no problems in their area, but have heard that there may be such a tendency to cause skin irritation.

Mr. Bob Williams is the manager and stated that they do experience burn problems with Morestan but not Omite. A local pest control adviser was present and likewise agreed that Morestan was a predictable problem causing severe burns which he felt greatly exceed the Omite problems in their area.

They could not delineate any particular product, but was sure that it was the wettables which produce the problems and suggested that better packaging may eliminate or greatly reduce it.

ROWELL PEST CONTROL

Lindsay, California

Ground Applicator

20 August 1975

Mr. Rowell stated that they apply lots of Omite by ground rig and hand spraying (they are the largest such applicator in the area) and have had no problems.

FISHER/RANDOLPH/FISHER INC.
Delano, California
Ground Applicator
20 August 1975

The foreman for this ground application and chemical company, Jack, stated that they have been having an extensive dermatitis problem with Uniroyal 30 Wettable Powder Omite. This problem has also been to the eyes as well as the skin.

They have begun experimenting with different procedures in order to find methods of handling which would reduce pesticide exposure symptoms. They have discovered that if their loaders do not wear protective coveralls, the dermatitis to the arms, etc., is greatly reduced.

It is their speculation that small dust particle sizes allows permeability through the fabric and continued contact with the arm area. Such covering increases temperature inducing perspiration which aggravates the chemical effect. They feel short sleeve shirts maintain a dry arm not adhering so much chemical and is easily washed off whereas coveralls eliminate continued cleaning the arm area by washing, blowing, or rubbing.

Jack said that they believed that an 8 ounce disposable package which would prevent the need for splitting the package would eliminate much of the problem. He had made this suggestion to Uniroyal but they have said that it is financially prohibitive.

He said that Omite is working well on nuts and grapes and they feel they must stick with it regardless of these problems.

They have only done one block with Morestan and had no problem as they put cream on areas which were likely to be exposed because they knew it was frequently responsible for skin rash.

KINGS COUNTY

LAKELAND DUSTERS
North of Corcoran
Kings County
21 August 1975

We spoke with Mr. Darrel Fry who manages Lakeland Dusters. Lakeland flies for J. G. Boswell Company and believes he puts on more Comite than anyone else.

This operation is very clean and quality conscious. Mr. Fry states that working for Boswell and their highly qualified management staff makes it imperative to run a good operation.

They have had no problems with the Comite and attribute it to wearing gloves and do all the mixing at a low level with proper equipment to avoid splashes, etc.

They believe that we are too concerned with dermatitis problems and hope that we will not force their using more toxic compounds due to dermatitis problems which might be preventable. They were very helpful and extended their full cooperation to us on this and any other matter.

ORTHO CHEMICAL COMPANY
Field man (name not given)
21 Aguust 1975

This gentlemen was at Lakeland Dusters when we spoke to Mr. Fry.

This man said he sells and deals with pest control operators and growers throughout the area who use Comite on cotton extensively. He has heard of only one incident which was on some test plots run by a recent Purdue Entomologist Graduate for one of the large ranches who contacted the material with no protective gear.

This information he related was that this was a minor incident.

CORCORAN DUSTERS
Corcoran Airport
Corcoran, California
21 August 1975

The manager has recently come to this outfit and had experienced no problems with the Comite they apply.

He had recently been with a pest control operator outfit using ground rigs and did not know of any problems there either.

He was concerned with an article he had recently read regarding the high amounts of parathion which may remain in coverall fabrics after laundering. I told him that recent interest has been generated on this general subject and perhaps the Department of Food and Agriculture and the State Department of Health would be distributing information on this in the future.

CALARCO
Corcoran, California
Kings County
21 August 1975
Ground applicator

This is the largest ground rig operation in the area. Mr. Sam Fuller is their manager and stated that they do all mite work with Kelthane and use no Omite or Comite.

SAWLER LAND COMPANY
Corcoran, California
21 August 1975

Sawler Land Company is one of the huge farming enterprises in the lower San Joaquin and along with Boswell, they farm a high percentage of Kings County cotton. They have recently decided to do their own aerial application and manager Clarence Lewis stated that he has heard of problems related to Comite, but that they had not experienced them. He was pleased to hear from us on the subject and said he would let Keith Mahan know if problems arose.

PURE GRO
Corcoran, California
21 August 1975

Pure Gro sells and does ground applications. They have not extensively used Comite but do a little work on cotton when it is small. They have experienced no problems themselves, but have heard of one incident last year.

That incident was skin rash on the arms of a mixer/loader which he described as minor.

DANNELL BROTHERS
Hanford, California
Ground applicator
21 August 1975

Mr. Russ Waymire is in charge of the spray operations for Dannell. He had stated that they have had extensive problems with Comite.

Mr. Waymire himself operates one of the applicators and has had continuous problems with a dermatitis on his neck. It has never been open sores, but has been a red blotchy area which is highly irritated and eventually scabs over.

Another of his operators has also had this same problem. The concentrated materials if splashed is much worse, but even the dilute mist will cause reddening of the face and neck area.

Russ stated that he doesn't like to use Comite due to this; and would prefer to work with Kelthane.

Once you become affected, you become more susceptible. Mr. Waymire said he never uses gloves and has often had his hands saturated with no detrimental effects, but that on sensitive areas he has had the dermatitis problem. Mr. Waymire would like to know how to avoid this problem. We suggested that Mr. Waymire use gloves, wash often and employ other careful handling practices.

COLLINS AVIATION

Lemoore, California

21 August 1975

Mr. Collins said that they use Comite and one of the wettable powders of Uniroyal Omite. He has heard of some problems but has not experienced any himself.

BLAIR AIR SERVICE

Hanford, California

21 August 1975

Mr. Blair has been doing a great deal of the loading himself and once last year got into some Comite and it developed a reddened blotch on his skin which disappeared after he washed later in the day.

They have had no further problems, but he heard of one pilot for another outfit whose entire upper body was red, very similar in appearance to a sunburn. Mr. Blair didn't know anything more about the incident.

FRESNO COUNTY

WESTERN SPRAY CHEMICAL CORPORATION
Gandy Flying Service
11841 South Henderson
Carruthers, California
Fresno County

We spoke to Mr. Don Hale, a co-owner of the aerial application service.

He stated that they fly a reasonably large amount of Comite and have never had any skin rash problems that he knew of.

Mr. Hale said that he frequently gets a rash on his upper arms and elbows, but that he has never been able to connect it with any particular pesticide. He said that he had never thought of Comite, but that he would keep it in mind and see if there is a connection in the future.

He said that his mixers and loaders wear all the protective clothing (gloves, face shield, aprons) and they require the flaggers to wear hats, long sleeves, and gloves. As a standard practice, they fly their swaths one pass down wind of the flaggers.

WESTERN AG AVIATION
Colorado Street
Tranquility, California
Fresno County
698-7689

The manager and pilots were not in the office and no other knowledgeable persons were around to respond to our questions.

AGAIR INC.
W. Manning Avenue
San Joaquin, California
Fresno County

We spoke to the manager who stated that they handle a small amount of Omite but treat a reasonably large acreage with Comite.

They have never had any problems with the Comite, or have never heard of any difficulties. The Omite has been on small jobs and never was on consecutive days which could account for the lack of problems in those operations.

They said that they will keep this potential in mind.

OCCIDENTAL CHEMICAL COMPANY
6285 East North Avenue
Fresno, California
Fresno County

We spoke to Jerry Swanson who manages the chemical sales warehouse, the pest control advisors and the ground rig application operations.

Mr. Swanson said that they have sold the Uniroyal Omite 4 Dust and have heard no complaints whereas they sell and apply the Uniroyal 30WP and he stated "it's a bitch".

They have had 4 serious eye problems and one skin dermatitis.

Their men drive as well as mix and load. Mr. Swanson states that he feels that exposure to the drift can also be a problem in addition to the mixing/loading operations. They had one man with serious eye effects (one of two men who had to wear eye patches for several days) who was allegedly wearing both goggles and face shield. Mr. Swanson theorizes that the men are wiping their forehead in the hot weather and subsequent sweat runs down into their eyes.

This outfit is going out of the spray application business largely due to economics.

Mr. Swanson feels that they were very safety conscious, had continuous safety meetings, and always were on their men to wear the protective gear. He feels the problem is largely due to the sophistication of the work force coupled with the fact that they are very transient which always makes for using inexperienced or untrained personnel.

He feels that increased warnings on labels are not effective but could visualize that dissolvable containerization would eliminate much of the problem.

A general safety concern which he has is the use of the concentrated and ULV sprays as the dilute materials represents a continual hazard whereas in more standard large volume applications the dilute is relatively safeguarded.

CENTRAL VALLEY AVIATION
C.V.A. CORPORATION
6720 East Conejo
Selmar, California
Fresno County

We spoke to Vera Swift (co-owner) and a manager of this large crop dusting firm.

They fly a little Omite and quite a lot of Comite.

They have neither heard of, or, experienced any rash or dermatitis problems with any of these products. They were generally referring to Comite in our discussion as they are not that often associated with Omite.

They stated that they used coveralls, hand and face protection during the mixing and loading phases.

They stated that the only problems they have had was in the handling of Dibrom 7 Dust. The manager has experienced extensive irritation when handling Dibrom 7 Dust and one loader can never be around this material.

SORENSEN AG CHEM
12667 South Elm
Carruthers, California
Fresno County

We spoke with Mr. Robert Sorenson and one of his men, Dwight _____.

Sorenson is a large ground application service which puts as much Omite on grapes as anyone in the valley. They handle Uniroyal 30 WP Omite.

They have had a few (4-7, he did not state) persons show signs of very minor dermatitis on the arms, but none so serious that they sought any medical treatment or missed any work.

Virtually all of the product they handle is in the powder form and during the busy season they have men handling Omite 60 days in succession with no major problems even when they use the 5# bags which require a lot of handling, although they are easier to handle.

They treat Omite as a category 1 material and generally wear long sleeved coveralls although they feel that they have less lower arm rash problems when they use short sleeves and wash their arms after each loading procedure.

They feel that soluble bags would be unnecessary as they can handle the material without serious problems. They do feel that such a procedure may be helpful to eliminate initial contact.

They have used Comite on a few jobs and have never experienced any problems with its use.

They feel that they have no replacement for Omite. Cygon is only effective when the vines are small and leaves are not yet maturely developed.

SELMA AG SUPPLY
Golden State Highway
Selma, California
Fresno County
27 August 1975

Selma Ag Supply sells agricultural pesticides and operates a large ground application service which usually specializes in vineyard applications.

The manager stated that they handle a large amount of Omite. Generally they use Uniroyal 30 WP and some Uniroyal 4 Dust. They do not handle or apply any Comite.

They have not experienced any problems themselves, but have heard of a few minor problems with the 30 WP but have never heard of anything concerning the 4 Dust.

The Selma Ag Supply operation is a single man operation with the application equipment driver doing his own mixing and loading. The men wear coveralls, gloves, and respirators when applying and a face mask when mixing and loading.

They have stressed to the loaders to take their time and not to zealously shake the sacks. They also attempt to apply only when the temperature is below 95 degrees; however, this proves to be difficult during busy seasons and warm weeks.

They were surprised that Omite problems were so pronounced and said that they have much greater problems in handling Defend due to its noxious odor. This company prefers Omite.

They regard Omite as the most effective miticide they have had in a long time. It gives them the longlasting effect without high toxicity and doesn't break down like dimethoate, etc.

The manager said he appreciated our interest and the information that problems could be connected with Omite usage.

AL POUSEN
Commercial Spraying
10620 South Cedar Avenue
Selma, California
Fresno County

ICHIO TAKENO
3875 East Mount View
Selma, California
Fresno County
876-4402

These operators were unavailable for comment.

KERN COUNTY

ARVIN AIRE
Arvin, California
Kern County

We spoke with Mr. Bill Jukes, the owner, who is very active in the aerial application industry serving as the legislative liaison for California Agricultural Aircraft Association.

Mr. Jukes handles some Omite and quite a lot of Comite. They have never experienced any problems.

Mr. Jukes feels that most persons know it has a high (safer) LD₅₀ rating and may treat this material casually even in cases where labels contain "DANGER". Perhaps "DANGER" on all of these packages and explicit warnings as to dermatitis may be helpful.

Bill feels that ground applicators who may not have the most sophisticated equipment and apply Omite for many days in a row probably have the greatest problems. In such instances crews get complacent as well as have the continuous exposure and are doing their own mixing and loading.

Other problems he feels are in the larger companies where supervision is more difficult, and there is a large turnover of personnel. Additionally, the old factors of the big rush during peak season manifests itself greatly when dealing with a material which is not going to systemically affect a person as he uses less self-discipline in handling such material.

Mr. Jukes has not heard of any problems with Comite and feels that if it is taken with a probe and not poured should not present any difficulties.

GRIFFIN SPRAYERS
3909 Riviera Drive
Bakersfield, California
Kern County

This is a very large ground application operation. They have applied about 20 tons of Omite 30 WP and don't know of any problems they have had with it.

They strictly require their men to wear coveralls and gloves and feel good handling judgment and properly designed equipment can safeguard from exposure effects.

We spoke to Mr. Ed Sampson, manager, and he feels there is no effective replacement for Omite on grapes.

Mr. Sampson said that he feels that parathion spraying for red scale is going to create worker safety hazards in the future due to the size of the problem, length of hours of exposure and high toxicity. He hopes that Supracide may be used as an effective replacement with lower toxicity.

Another safety item he questions is the use of Plictran on almonds and nectarines for which no interval has been established.

SAN JOAQUIN SPRAYERS
Delano, California
Kern County
26 August 1975

We spoke to Mr. Lee Brown and Bob Prather as to any problems they may have experienced with Omite/Comite.

San Joaquin Sprayers is a large ground application service. They handle large quantities of Omite, most of which is Uniroyal 30 WP. They also operate two helicopters which apply Omite and Comite in the emulsifiable liquids.

In the helicopter operations, they have experienced no problems of any nature.

In the ground operations, they employ 40-45 persons. This season they have experienced from 9-11 pesticide exposure symptoms in handling Omite.

They said that these exposures were generally on the arms and around the neck. One man had dermatitis on the legs caused by stomping on emptied sacks. Another man experienced dermatitis across a section of his back in the location from which he profusely perspired. All of the cases were described as non-serious.

There was only a single case of eye irritation.

All of the persons affected were the mixer/loaders and no cases were experienced by the drivers of the application vehicles.

During 1974, San Joaquin Sprayers had no problems; however, this year they began operating in the same manner and had problems. This season they have used materials which have been in category 3 packages, others in category 2, and some which were in packages marked "DANGER".

After experiencing the problems, they now treat the material as a category 1 requiring mixers/loaders to wear face shield, coveralls, and gloves. They stress the usage of coveralls as the entire key. They have tried disposable coveralls in the past, but they do not hold up.

In addition, they have required almost constant supervision during each job involving Omite and they feel that has reduced the number of incidents.

San Joaquin Sprayers has adapted their equipment to make mixing and loading easier and safer. They are ready to adopt to more exotic systems (distractable); however, they state that they cannot do much until they can be assured that they will have a supply of similar containers in the future.

They feel that problems would be eliminated if they avoid the WP's or if the WP's came in 8 ounce dissolvable packages.

They have spoken to Uniroyal about their problems as they are very concerned with this problem and safety in general.

Recently in Kern County, Tennaco Company Farming operation has had a crew in grapes get adverse effects from Omite applications.

San Joaquin Sprayers had made the application and Mr. Langstrom is presently involved in investigating the incident which affected some 20-24 field workers thinning grapes four days after application.

Mr. Langstrom will send to us the report he is preparing on the matter.

ROBERTS FARMS
Delano, California
Kern County

We spoke to Bill Newhouse and Buck Hartely of Roberts Farms.

They apply a lot of Omite. They have had no problems with the Uniroyal 6# Omite, but they have used primarily the Uniroyal Omite 30 WP and have had 4 persons adversely affected in 1975.

Mr. Hartely wonders if there has been a change of formulation as they had no difficulty previously.

They state that all of the problems are in the powder form and have no evidence of difficulty once in the dilute solution.

Their loaders and mixers wear face protection, coveralls, and gloves. Their applicators do not mix and load. One mixer/loader suffered dermal effects constantly and they transferred him to the position of applicator and he has not had problems since.

Buck Hartely feels that once a company realizes that Omite may cause these serious effects and become safety conscious requiring strict supervision of the wearing of protective equipment and proper handling procedures, they can avoid most of the problems.

They regard Omite as the only effective miticide available for grapes.

Lists of Pesticides Registered in California
that Contain Propargite
and Representative Labels of These Products

OMITE PRODUCT LIST

SEARCH NO. 01
DATE 06/13/75
ACTIVITY 00000

STATUS 0
TYPE
USE
WARNING
FORM
CHEMICAL 00445
CLASS 45
CHEMICAL
CLASS
STATUS
CMDY

CASTLE A L INC

P O BOX 877
MORGAN HILL, CA 95037

10972 50200 AA	CASTLE BRAND DUST DIBROM OMITE S-4-3-20
10972 50201 AA	CASTLE BRAND DUST DIBROM OMITE 4-3
10972 50202 AA	CASTLE BRAND DUST OMITE 4

CHEVRON CHEMICAL COMPANY ORTHO DIVISION

940 HENSLEY ST
RICHMOND, CA 94804

00239 02430 AA	ORTHO OMITE 4 DUST
00239 50693 AA	ORTHO DIBROM-OMITE 4-3 DUST
00239 50698 AA	ORTHOCLIDE-OMITE 5-3 DUST
00239 50701 AA	ORTHO DIBROM OMITE ORTHOCIDE 4-3-5 DUST

FMC CORP-AGRICULTURAL CHEMICALS DIV

P O BOX 1669
FRESNO, CA 93717

00279 02970 AA OMITE 4 DUST

MOYER CHEMICAL COMPANY

P O BOX 945
SAN JOSE , CA 95108

05967 50334 AA

OMITE DUST NO. 4

UNIROYAL CHEMICAL DIVISION OF UNIROYAL INC

AMITY ROAD
BETHANY , CT 06525

00400 00082 AA

OMITE 30W

00400 00088 AA

OMITE-4D

00400 00089 AA

OMITE-6E

00400 00095 AA

OMITE TECHNICAL

00400 00104 AA

OMITE

00400 00105 AA

OMITE DUST BASE CONCENTRATE

WILBUR-ELLIS CO

970 S GOODRICH BLVD
LOS ANGELES, CA 90022

01227 50067 AA

RED-TOP DIAZIONON 2 - OMITE 4 DUST

01227 50068 AA

RED-TOP DIBROM 4 - OMITE 4 DUST

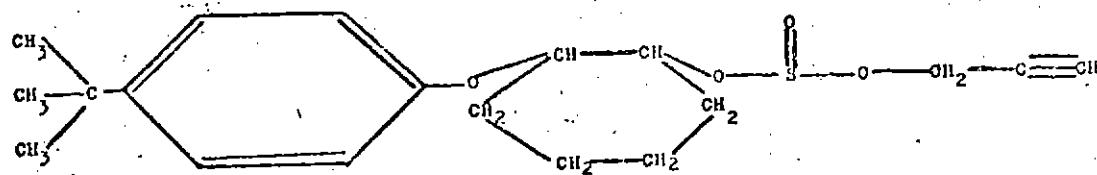
01227 50081 AA

RED-TOP WIL-O-MITE DUST

01227 50095 AA

RED-TOP OMITE 4 - BENOMYL 1 DUST

NAME Propargite
(OMITE, COMITE)



*2-(*p*-*tert*-Butylphenoxy) cyclohexyl 2-propynyl sulfite.*

TYPE

Omite is an organic compound being used as an acaricide showing contact and residual activity.

ORIGIN

Universal Chemical Co., 1965.

TOXICITY

LD₅₀ = 2200 mg./kg.

FORMULATIONS

EC-6 lbs. active/gallon, 30% WP, 4% dusts.

PHYTOTOXICITY

Phytotoxic to cotton under 10 inches in height. No injury or fruit blemishes have occurred to date with the exception of pears.

USES

Apples, apricots, grapes, hops, nectarines, cotton, strawberries, peaches, pears, plums, prunes, walnuts.

IMPORTANT PESTS CONTROLLED

Spider mites including the Two-spotted, European Red, Brown almond, Clover, Pacific, McDaniel, Citrus Red, Texas Citrus, Citrus Rust, Pear Rust, and others.

RATES

Applied at .375 - .75 lbs. actual/100 gallons of water.

APPLICATION

Apply before mites build up to destructive numbers. Apply evenly and thoroughly, repeating as is necessary.

PRECAUTIONS

Do not graze the treated areas. Do not mix with alkaline materials or with pesticides containing a large amount of petroleum solvents. Toxic to fish.

ADDITIONAL INFORMATION

Most effective against the motile stages of mites. Non systemic. Moderately long residual activity. Effective against phosphate and chlorinated hydrocarbon resistant mite strains. No insecticidal activity. Safe to honey bees and allows good survival of predaceous mites.

A. L. CASTLE INC. BRAND

CASTLE BRAND DUST

DIBROM OMITE 4-3

INSECTICIDE-MITICIDE

Active Ingredients

Naled 4%

• 2-bromo-2-chloro-4-nitro-cyclohexyl

2-propynyl sulfide 93%

Inert Ingredients

1,2-dibromo-2,2-dichloroethyl dimethyl phosphate.

U. S. Pat. No. 2,971,882

U. S. Patent Nos. 3,272,854 and 3,463,359

Use within ____ days of manufacture only, as this product
composes.

READ ENTIRE LABEL USE STRICTLY IN ACCORDANCE
WITH WARNINGS AND DIRECTIONS, AND WITH APPLI-
CABLE STATE AND FEDERAL REGULATIONS.

KEEP PESTICIDE IN CRISTAL CONTAINER.

BURN BUG IMMEDIATELY WHEN EMPTY. STAY OUT OF SMOKE.

Not for use or storage in or around the home.

STORE IN COOL, DRY PLACE,
OUT OF DIRECT SUNLIGHT.

CALIF. ONLY

NET WEIGHT 50 LBS.

DIBROM registered trademark of the CHEVRON
CHEMICAL COMPANY
OMITE registered trademark of UNIVROYAL
CHEMICALS

By Wt.

4%

93%

1,2-dibromo-2,2-dichloroethyl dimethyl phosphate.

U. S. Pat. No. 2,971,882

U. S. Patent Nos. 3,272,854 and 3,463,359

Use within ____ days of manufacture only, as this product
composes.



KEEP OUT OF REACH OF CHILDREN

WARNING: Avoid inhaling vapors or dust. Do
not let children play close to eyes. May cause eye damage. The wearing of
goggles is recommended. In case of contact with eyes,
flush with running water for 15 minutes and get medical
attention. In case of skin contact, wash thoroughly with
warm water and soap. Harmful if swallowed. May cause
irritation of eyes, nose and throat. Avoid contact with skin
and eyes. Wash thoroughly after using. Do not store or
transport near food or feed. Note to Physicians: Although
is antidotal, 2-PAM is also antihistol and may be administered
in conjunction with atropine. Do not use on cherries
as injury may result. May corrode metal dust equipment,
clean equipment after use.

This product will kill fish and wildlife. Keep out of lakes,
streams or ponds. Birds feeding on treated areas may be
killed. Shrimp and crab may be killed at application rates.
recommended on this label. Do not apply where these are
important resources. Do not contaminate water by cleaning
of equipment or disposal of wastes. Do not apply when
weather conditions favor drift of spray from areas treated.

This product is highly toxic to bees exposed to direct treat-
ment or residues on crops. Protective information may be
obtained from your Cooperative Agricultural Extension
Service.

DIRECTIONS:

Strawberries: Aphids, Two-Spotted Pacific Mite, Strawberry
Mite—50 lbs. per acre. Do not make more than three
applications per season between harvest. Do not apply
within 4 days of harvest. Do not graze or feed livestock
on cover crops grown among the plants.

NOTICE: The use of this material being subject to con-
trol, neither A. L. CASTLE, nor the seller make any representation or warranty,
expressed or implied, with respect to results from such
whether or not used in accordance with directions. The buyer
accepts and uses this material subject to these terms
shall not hold either A. L. CASTLE, INC., or seller liable
for the results of any use of this material. Any buyer not
complying with the foregoing terms is requested to return to se-
this container unopened and in good condition within
(5) days from date of purchase. Seller is hereby author-
ized by A. L. CASTLE, INC., to refund the purchase price,
buyer who shall not have returned this container in s-
time and manner shall be conclusively presumed to h-
accepted all the terms of this notice.

CAUTION— Various restrictions have been placed on t-
use of insecticides on food crops. The user is advised to co-
suit his CASTLE FIELDMAN as to the proper time for a-
plying this product.

State Reg.

AA

CASTLE BRAND DUST

with add.

CASTLE SEAOIL

Active ingredient (% by weight)
Active Ingredients
2-(p-tert-butylphenoxyl) cyclohexyl
2-propynyl sulfite *
Inert Ingredients
Total U. S. Patent Nos. 3,272,854; 3,463,859

Active ingredient (% by weight)

Active Ingredients
2-(p-tert-butylphenoxyl) cyclohexyl
2-propynyl sulfite *
Inert Ingredients
Total U. S. Patent Nos. 3,272,854; 3,463,859

By Wt.

4.0%

96.0%

100.0%

UNIROYAL CHEMICAL

NOTICE: The use of this material being subject to conditions beyond their control, neither A. L. CASTLE, INC., nor the seller make any representation or warranty expressed or implied, with respect to results from such use, whether or not used in accordance with directions. The buyer accepts and uses this material subject to these terms and shall not hold either A. L. CASTLE, INC., or seller liable for the results of any use of this material. Any buyer not accepting the foregoing terms is required to return to seller this container unopened and in good condition within five (5) days from date of purchase. Seller is hereby authorized by A. L. CASTLE, INC., to refund the purchase price. Any buyer who shall not have returned this container in such time and manner shall be conclusively presumed to have accepted all the terms of this notice.

CAUTION— Various restrictions have been placed on the use of insecticides on food crops. The user is advised to consult his CASTLE FIELDMAN as to the proper time for applying this product.

Not for use or storage in or around the home.

W A R N I N G
STORE IN COOL, DRY PLACE,
OUT OF DIRECT SUNLIGHT.

NET WEIGHT 50 LBS.

STATE RECN. NO.

MORGAN HILL

OMITE® 4

A dry dust formulation used to control two-spotted spider, Pacific spider, strawberry spider and Willa-

* Omite-4D is not systemic in action; therefore complete coverage of both upper and lower leaf surfaces is necessary for effective control.

DOSEAGE INSTRUCTIONS

CROP	MITES CONTROLLED	AMOUNT	PER ACRE	TOTAL NUMBER OF APPLICATIONS PER CROP SEASON (BLOOM TO HARVEST)		DAYS BEFORE HARVEST (LAST APPLICATION)
				AREA	West of Rockies	
Strawberries	two-spotted spider Pacific spider strawberry spider	40 lbs.	40 lbs.	3	3	3

FOR POST-HARVEST AND NON-BEARING VINES ONLY

Non-bearing vines are those that will not bear grapes within one year of Omite-4D application

CROP	MITES CONTROLLED	AMOUNT	PER ACRE	TOTAL NUMBER OF APPLICATIONS PER YEAR		AREA
				West of Rockies	Apply as needed	
Grapes See Caution No. 1	Two-spotted spider Pacific spider Strawberry spider Willamette	40 lbs.	40 lbs.	3	3	3

Caution: KEEP OUT OF REACH OF CHILDREN

- Do not apply Omite-4D before or following spring and summer foliar spray oils or leaf injury and fruit spotting may occur. Do not apply when air temperatures are 80° F or above as leaf injury may occur.
- Do not use Omite-4D mixed alkaline materials such as lime, lime sulfur or Bordeaux mixture. The effectiveness of Omite will be reduced.
- Strawberries (California) — Do not apply at day temperatures above 80° F as fruit burn may occur.

WARNING

HANDLING: Avoid inhaling vapor or dust. Do not get in eyes. May cause eye damage. The wearing of goggles is recommended. In case of contact with eyes, flush with running water for 15 minutes and get medical attention. In case of skin contact, wash thoroughly with warm water and soap. May be harmful if swallowed.

FISH AND WILDLIFE: Keep out of any body of water. This product is toxic to fish. Do not apply when weather conditions favor drift from areas treated. Do not apply where runoff is likely to occur. Do not contaminate water by cleaning of equipment or disposal of wastes.

USE RESTRICTIONS: Do not graze or feed livestock on cover crops grown among the vines listed on this label.

CONTAINER DISPOSAL: Burn or bury container 18 inches below soil surface at safe disposal site. Never reuse for food.

A. L. CASTLE, INC.

CALIFORNIA

CHEVRON CHEMICAL COMPANY, ORTHO DIVISION

OMITE® DUST

(MITICIDE)

Active Ingredient

Propargite
Inert Ingredients
2-(p-tert-butylphenoxy) cyclohexyl 2-propynyl sulfide
U.S. Patent Nos. 3,272,854 and 3,463,859

DIRECTIONS

By Wt.
4.0%
96.0%
GRAPES (CALIFORNIA ONLY): Twospotted Spider Mite, Pacific Spider Mite, Willamette Mite—Apply 40 lbs. per acre. Two applications may be made per year. Dust may be applied up to 14 days before harvest. Do not graze or feed livestock on cover crops grown among the vines listed on this label.

DANGER: KEEP OUT OF REACH OF CHILDREN.

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH DANGER STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

KEEP PESTICIDE IN ORIGINAL CONTAINER.

STORE IN COOL, DRY PLACE,
OUT OF DIRECT SUNLIGHT.

BURN BAG IMMEDIATELY WHEN EMPTY. NEVER REUSE.

A dry dust formulation used to control Strawberry Spider Mite, Willamette Mites (Grapes Only), Pacific Spider Mites and Twospotted Spider Mites.

ORTHO OMITE 4 Dust is not systemic in action; therefore, complete coverage of both upper and lower leaf surfaces and of fruit is necessary for effective control. Mites form stop feeding when they come in contact with OMITE and are killed within 48 to 72 hours, depending on the temperature. OMITE has some ovicidal activity. The mites that do hatch from eggs will be killed by the residue of OMITE left on the leaves and fruit.

Do not use except as specified on this label.

NET WEIGHT 50 LBS.

Chevron Chemical Company
Ortho Division/San Francisco CA 94119
Product 5246
Form Gen. 8880-A
EPA Reg. No. 9-2430-AA

STRAWBERRIES, (WEST OF ROCKIES ONLY): Twospotted Spider Mite, Pacific Spider Mite, Strawberry Spider Mite—Apply 40 lbs. per acre. Do not apply more than 3 times per season. Dust may be applied up to 3 days before harvest. Do not graze or feed livestock on cover crops grown among the vines listed on this label. Do not apply at day temperatures above 80° F. as fruit burn may occur. Do not apply more than 3 applications of OMITE in any 40 day period during the harvesting season.

DO NOT TAKE INTERNALLY
DO NOT INHALE
DO NOT GET ON SKIN



DANGER: CORROSIVE. Causes skin and eye damage. Do not get in eyes, on skin or clothing. Wear goggles or face shield and rubber gloves when handling. Harmful if swallowed. Avoid inhaling dust or spray. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. If swallowed, promptly drink a large quantity of milk, egg whites, gelatin solution or, if these are not available, drink large quantities of water. Avoid alcohol.

Note to Physicians: Emergency Information - call (415) 233-3737. Remove and wash contaminated clothing before reuse.

This product is toxic to fish. Keep out of lakes, streams or ponds. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on this label.

NOTE: Do not use ORTHO OMITE 4 Dust mixed with alkaline materials such as lime, lime sulfur or Bordeaux mixture as the effectiveness of OMITE will be reduced. Do not use sprays or summer foliar oil sprays before or following ORTHO OMITE 4 Dust or leaf injury and fruit spotting may occur.

CONDITIONS OF SALE: 1. Chevron Chemical Company (Chevron) warrants that this material conforms to the chemical description on the label and is reasonably fit for use as directed herein. Chevron neither makes, nor authorizes any agent or representative to make, any other warranty of FITNESS or of MERCHANTABILITY. Guaranteed or representation, express or implied, concerning the material.

2. Critical and unforeseeable factors beyond Chevron control prevent it from eliminating all risks in connection with the use of chemicals. Such risks include, but are not limited to, damage to plants and crops to which the material is applied, lack of complete control, and damage caused by drift to other plants or crops. Such risks occur even though the product is reasonably fit for the uses stated hereon and even though label directions are followed.

Buyer and user acknowledge and assume all risks and liability (except those assumed by Chevron under 1 above) resulting from handling, storage, application of this material.

OMITE® registered trademark of Unilever

ORTHOCIDE-OMITE 5-3 DUST



(FUNGICIDE-MITICIDE)

Active Ingredients
Captan By Wt.
2-(p-tert-butylphenoxy) cyclohexyl 5%
2-propynyl sulfide ** 3%

Inert Ingredients 92%
**U. S. Patent Nos. 3,272,854 and 3,463,859

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH WARNINGS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

KEEP PESTICIDE IN ORIGINAL CONTAINER.

STORE IN COOL, DRY PLACE,
PROTECT FROM EXCESSIVE HEAT.

BURN BAG IMMEDIATELY WHEN EMPTY. STAY OUT OF SMOKE.

CALIF. ONLY

NET WEIGHT 50 LBS.

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Chevron Chemical Company
Ortho Division/San Francisco, Calif. 94119
Richmond, California
Orlando, Florida
Perth Amboy, New Jersey
Des Moines, Iowa
Product 5243
Form CA-85-84-A
State Reg. N. 239-50698-AA

DIRECTIONS
STRAWBERRIES: Botrytis Rot, Two-Spotted Pacific Mite,
Strawberry Spider Mite—40 to 50 lbs. per acre. Do not
use within 3 days of harvest. No more than 3 applications
per year. Do not graze or feed livestock on cover crops
grown among the vines.

- DO NOT TAKE INTERNALLY
DO NOT INHALE
DO NOT GET ON SKIN



KEEP OUT OF REACH OF CHILDREN

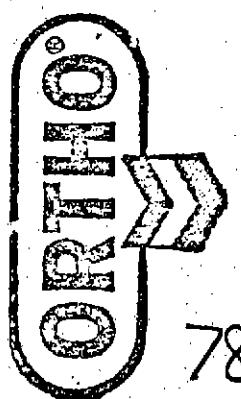
WARNING: Harmful if swallowed. Avoid inhalation of dust. Do not get on skin or in eyes. In case of skin contact, wash thoroughly with warm water and soap. May cause eye damage. The wearing of goggles is recommended. In case of contact with eyes, flush with running water for 15 minutes and get medical attention. Do not store or transport near feed or food. Do not apply under conditions involving possible drift to food, forage, or other plantings that might be damaged or the crops thereof rendered unfit for sale, use or consumption. Burn or bury container 18 inches below soil surface at a safe disposal site. Never re-use.

This product is toxic to fish. Keep out of lakes, streams or ponds. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water by cleaning equipment, or disposal of wastes.

NOTE: Do not use with alkaline materials such as lime, lime sulfur or Bordeaux mixture. Do not use spring or summer foliar oil sprays before or following use of this dust. Do not use this product on foliage closely following oil sprays.

CONDITIONS OF SALE: 1. Chevron Chemical Company (Chevron) warrants that this material conforms to the chemical description on the label and is reasonably fit for use as directed hereon. Chevron neither makes, nor authorizes any agent or representative to make, any other warranty of FITNESS or of MERCHANTABILITY, guarantee or representation, express or implied, concerning this material.
2. Critical and unforeseeable factors beyond Chevron's control prevent it from eliminating all risks in connection with the use of chemicals. Such risks include, but are not limited to, damage to plants and crops to which the material is applied, lack of complete control, and damage caused by drift to other plants or crops. Such risks occur even though the product is reasonably fit for the uses stated herein and even though label directions are followed. Buyer and user acknowledge and assume all risks and liability (except those assumed by Chevron under 1 above) resulting from handling, storage, and use of this material.

OMITE® is a registered trademark of Unirk



ORTHO A.M.

ORTHO DIBROM-OMITE-ORTHOCIDE 4-3-5 Dust

NET WEIGHT 50 LBS.

BURN BAG IMMEDIATELY WHEN EMPTY. STAY OUT OF SMOKE.

This material is not to be shipped in Interstate commerce.

(INSECTICIDE-FUNGICIDE)

Active Ingredients By Wt. *Naled..... 4%

2-(*p*-tert-butylphenoxy) cyclohexyl

**2-propynyl sulfite..... 3%

**Captan..... 5%

Inert Ingredients..... 88%

*1,2-dibromo-2, 2-dichloroethyl dimethyl phosphate

U.S. Pat. No. 2,971,882

U.S. Pat. Nos. 3,272,854; 3,463,859

N-(trichloromethyl)thio)-4-cyclohexene-1,2-dicarboximide.

Use within _____ days of manufacture only as this product decomposes.

Date of Manufacture _____.

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH CAUTIONS, WARNINGS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

Keep pesticide in original container.

STORE IN COOL, DRY PLACE, OUT OF DIRECT SUNLIGHT.

CAUTION: KEEP OUT OF REACH OF CHILDREN READ THE LABEL

CAUTION: Avoid inhaling vapors or dust. Do not get in eyes. May cause eye damage. The wearing of goggles is recommended. In case of contact with eyes, flush with running water for 15 minutes and get medical attention. In case of skin contact, wash thoroughly with warm water and soap, harmful if swallowed. May cause irritation of eyes, nose and throat. Avoid contact with skin and eyes. Wash thoroughly after using. Do not store or transport near feed or food. Do not use on cherries as injury may result. May corrode metal dust equipment, clean equipment after use. Do not apply when weather conditions favor drift of spray from areas treated.

This product will kill fish. Keep out of lakes, streams or ponds. This product is highly toxic to bees exposed to direct treatment or residues on crops. Protective other plants or crops. Such risks occur even though the product is reasonably fit for the uses stated hereon and even though label directions are followed. Buyer and user acknowledge and assume all risks and liability (except those assumed by Chevron under 1 above) resulting from handling, storage, and use of this material.

OMITE Reg. T.M. Uniroyal Chemical Co.

ORTHO DIVISION - San Francisco, California 941

DES MOINES, IOWA

FRESNO, CALIFORNIA

HONOKU, HAWAII

This product is formulated for application by ground or air equipment.

DIRECTIONS

STRAWBERRIES: Aphids, Two-Spotted Pacific & Strawberry Mites, Botrytis Rot - 40 to lbs. per acre. Do not make more than three applications per season (bloom to harvest). Do not apply within 4 days of harvest.

CONDITIONS OF SALE: 1. Chevron Chemical Company (Chevron) warrants that this material conforms to the chemical description on the label and is reasonably fit for use as directed herein. Chevron neither makes, nor authorizes any agent or representative to make, any other warranty of FITNESS or of MERCHANTABILITY, guarantee or representation, express or implied, concerning this material.

2. Critical and unforeseeable factors beyond Chevron's control prevent it from eliminating all risks in connection with the use of chemicals. Such risks include, but are not limited to, damage to plants and crops to which the material is applied, lack of complete control, and damage caused by drift to other plants or crops. Such risks occur even though the product is reasonably fit for the uses stated hereon and even though label directions are followed. Buyer and user acknowledge and assume all risks and liability (except those assumed by Chevron under 1 above) resulting from handling, storage, and use of this material.

Production No. _____

CHEVRON CHEMICAL COMPANY

Product 34

ORTHO A.M.

ORTHO A.M.

ORTHO A.M.

78

Made in U. S. A.
PERTH AM

NEW JERSEY

F. M. C. CORPORATION - AGRICULTURAL CHEMICALS DIVISION

Code: 31168

OMITE^(u) 4 DUST

Net Weight
50 Pounds

DIRECTIONS FOR USE

Apply when air is calm, using ground or airplane equipment. Make thorough coverage of both upper and lower leaf surfaces and of fruit. Do not graze or feed cover crops grown among treated planting. Observe days interval between last application and harvest indicated by number in () following crop.

GRAPES (14): Two-spotted Spider, Pacific Spider, Strawberry Spider, and Willamette

Wines — Use .40 pounds per acre. Do not apply more than twice per year.

STRAWBERRIES (West of Rocky Mountains) (3): Two-spotted Spider, Pacific Spider, and Spider Mite — Use 40 pounds per acre. Do not make more than 3 applications per crop season (boom to harvest).

EPA Reg. No. 279-2970 AA

ACTIVE INGREDIENTS

Propargite: 2-(piperidinophenoxy)cyclohexyl
2-propynyl sulfide
INERT INGREDIENTS:

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ENVIRONMENTAL AND DISPOSAL CAUTIONS

This product is toxic to fish. Keep out of lakes, ponds and streams. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not apply when weather conditions favor drift from the areas treated. Do not apply where runoff is likely to occur. Apply this product only as specified on this label.

DISPOSE OF WASTES by burying at least 18 inches deep in non-crop land away from water supplies. Empty bags should be buried with wastes. Do not burn.

WARNING

KEEP OUT OF REACH OF CHILDREN

Avoid inhaling dust or spray. Do not get in eyes. May cause eye damage.

The wearing of goggles is recommended. In case of contact with eyes, flush with running water for 15 minutes and get medical attention. In case of skin contact, wash thoroughly with warm water and soap. May be harmful if swallowed.

USAGE CAUTIONS

Do not use with lime, Bordeaux, lime sulfur, caseinlime spreaders or other alkaline materials.

Do not apply this product at any time following "Supreme" type oil application. Do not apply within 21 days of other oil application.

Do not use when air temperatures are above 95° F. at leaf injury may occur.

For Emergency Assistance Call

710-735-3743

EPA Est. 279-CA-1

Printed in U.S.A.

MOYER CHEMICAL CO.

OMITE DUST INO.

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH CAUTIONS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.

Keep pesticide in original container.

Burn bag immediately when empty — Stay out of smoke.

DIRECTIONS FOR USE:

This product is an agricultural pesticide for application by ground or air for the below indicated uses:

GRAPES: Ground application only—For control of Williamette, Pacific, Strawberry and Two-Spotted Mites, use 40 pounds per acre in a manner to provide complete coverage of upper and lower leaf surface. Do not apply under wind conditions which will result in drift. Two applications per year may be used. Do not apply later than 14 days before harvest.

STRAWBERRIES: For Two-Spotted Mite, Pacific Mite, Strawberry Mite, use 40 pounds per acre. Do not use within 3 days of harvest. Up to 3 applications may be made per year from bloom to harvest. Do not apply more than 3 applications in any 60-day period during the harvesting season.

NET WEIGHT 50 LBS.

WARNING:

Harmful if swallowed. Avoid inhaling vapor or dust. Do not get in eyes. May cause eye damage. The wearing of goggles is recommended. In case of contact with eyes, flush with running water for 15 minutes and get medical attention. In case of skin contact, wash thoroughly with warm water and soap.

ACTIVE INGREDIENT
2-(p-tert-butylphenoxy) cyclohexyl
2-propynyl sulfite* 4.0%

INERT INGREDIENTS 96.0%

TOTAL 100.0%

*OMITE—TM Reg. UniRoyal, Inc.

**U.S. Patent Nos. 3,272,854 and 3,463,859

WARNING: KEEP OUT OF REACH OF CHILDREN

STATE REGISTRATION NO. 05967 50334 AA

EPA EST. 5967-CA-1

3/74

Do not use within 3 days of harvest. Up to 3 applications may be made per year from bloom to harvest. Do not apply more than 3 applications in any 60-day period during the harvesting season.

THIS PRODUCT IS TOXIC TO FISH. Keep out of any body of water. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water by cleaning of equipment or disposal of wastes.

Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crops thereof rendered unfit for sale, use or consumption.

Do not graze or feed livestock on cover crops grown among vines listed on this label. Do not use at day temperatures above 90° F. Do not use spring or summer foliar oil sprays before or following the use of Omite Dust No. 4. Burn or bury 18 inches below soil surface at safe disposal site. Never reuse for food.

NOTICE TO BUYER—Seller makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and/or handling of this material when such use and/or handling is contrary to label instructions.

— NON-RETURNABLE —

MANUFACTURED BY
MOYER CHEMICAL COMPANY
1310 BAYSHORE HIGHWAY P. O. BOX 945
SAN JOSE, CALIFORNIA

UNIROYAL CHEMICAL DIVISION OF UNIROYAL INC.

8 63

DANGER! KEEP OUT OF REACH OF CHILDREN.

AA

Corrosive. Causes skin and eye damage.

Do not get in eyes, on skin or on clothing.

Wear goggles or face shield and rubber gloves when handling.

Harmful if swallowed. Avoid inhaling dust or spray.

Avoid contamination of food.

FIRST AID: In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and wash contaminated clothing before reuse. If swallowed, drink promptly a large quantity of milk, egg whites, gelatin solution, or, if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately.

For other precautionary statements, see back panel.

OMNITE[®]
30W AGRICULTURAL
MITICIDE
(West of the Rocky Mountains)

Net Weight: 5 POUNDS

COMPOSITION

Active Ingredient (% by weight).

Propargite 2-(p-tert-butylphenoxy)

cyclohexyl 2-propynyl sulfite* 30%

Inert Ingredients 70%

Total 100%

*U.S. PATENT NOS. 3,272,854 and 3,463,859

EPA REGISTRATION NO. 400-82-AA

CALIFORNIA
AGRICULTURAL
MITICIDE
REGISTRATION
TICKET



OMITE®-30W

AGRICULTURE
MURKIN

A dry wettable powder for preparing sprays to control brown almond, citrus, red, clover, European red, McDaniel, Pacific spider, peach silver, strawberry spider, two-spotted spider and Willamette mites.

Omite-30W is not systemic in action; therefore,

Quito-30W is not systemic in action; therefore,

complete and uniform coverage of both upper and lower leaf surfaces and of fruit is necessary for effective control. Always use at least the minimum recommended amount of Omite-30W per acre. Omite-30W can be used in concentrate sprays.

USAGE INSTRUCTIONS

Crop	Mites controlled	Amount OMITE-30W per acre per treatment	OMITE-30W per 100 gallons of water West of Rocky Mountains	Gallons spray solution per acre	Total number of sprays /year	Last spray days before harvest
ALMONDS (California only)	clover, European red, two-spotted spider, strawberry spider, Pacific spider	5-22 lbs.	1-1½ lbs.	500-1500	2	28
APPLES	European red; two-spotted spider, Pacific spider, McDaniel	5-12 lbs.	1-1½ lbs.	500-800	3	7
APRICOTS	Pacific spider, two-spotted spider	5-9 lbs.	1½ lbs.	300-600	2	14
CALIFORNIA WALNUTS	European red, two-spotted spider	7-22 lbs.	1½ lbs.	500-1500	2	14
GRAPEFRUIT (California only)	citrus red	15 lbs.	1½ lbs.	1000	2	7
GRAPES (California only)	Pacific spider, strawberry spider, Willamette, two-spotted spider	5-9 lbs.	1½ lbs.	350-600	2	21
HOPS	two-spotted spider	5 lbs.	2½ lbs.	200	2	14
NECTARINES	Pacific spider, brown almond	5-9 lbs.	1½ lbs.	300-600	2	14
ORANGES AND LEMONS (California only)	citrus red	10-15 lbs.	1-1½ lbs.	600-1500	2	7
PEACHES	European red, Pacific spider, two-spotted spider, strawberry spider, McDaniel, peach silver	5-15 lbs.	1½ lbs.	300-1000	2	14
PLUMS — PRUNES	European red, two-spotted spider, Pacific spider	5-15 lbs.	1½ lbs.	300-1000	2	14

Crop	Mites controlled	Amount OMITE-30W per acre per treatment	OMITE-30W per 100 gallons of water West of Rocky Mountains	Gallons spray solution per acre	Total no. of sprays/reqd season (from harvest)	Last spray days before harvest
STRAWBERRIES (See application notes below)	Pacific spider, strawberry spider, two-spotted spider	5-10 lbs.	5 lbs.	100-200	3+	3

* Do not apply more than 3 applications of Omite in any 40 day period during the harvesting season.

APPLICATION NOTES

- APPLICATION NOTES**

 1. Do not combine with other chemicals or spray adjuvants, as leaf and fruit injury may occur. (strawberries only)
 2. California: Do not apply at day temperatures above 80° F as fruit burn may occur. (strawberries only)
 3. Omite-JW may cause some leaf burn on new growth (sooty growth) of oranges and lemons.
 4. Omite performance is best when daily temperatures average above 70° F.

FOR POST HARVEST AND NON-BEARING TREES ONLY
Non-bearing trees are those that will not bear fruit within one year of Onsite Application.

DOSAGE INSTRUCTIONS						
Crop	Mites controlled	Amount OMITE-30W per acre per treatment	OMITE-30W per 100 gallons of water West of Rocky Mountains	Gallons spray solution per acre	Total number of sprays /year	Last spray days before harvest
CHERRIES	European red two-spotted spider Pacific spider McDaniel	6 lbs.	1½ lbs.	400	-	-
PEARS	European red two-spotted spider	5-7½ lbs.	FOR POST HARVEST TREES ONLY 1½ lbs.	300-500	-	-

WABING

FISH AND WILDLIFE: This product is toxic to fish, ~~shrimp and crab~~. Keep out of any body of water. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on this label.

USE RESTRICTIONS: Do not graze or feed livestock on cover crops grown among the trees listed on this label. Do not feed animals apple pomace made from Omite treated apples. Do not feed hop refuse or cones to livestock.

CAUTION:

- CAUTION:**

 - A. Leaf injury and/or fruit spotting may occur if the following conditions are not observed.
 1. Do not apply Omite-30W with Diazinon-WP if air temperatures are expected to exceed 95°F the day of spraying apples and hops.
 2. Omite-30W is not compatible with foliar spray oils. [Further information available from supplier].
 3. Sprint-3B™ is the spreader-sticker designed for use with Omite-30W; other spreader-stickers may be used (follow suppliers' recommendation on rates).

8. Omite-30R is not compatible with alkaline materials such as lime, lime sulfur or Bordeaux. The effectiveness of Omite will be reduced.

COMPATIBILITIES: Except as noted above, Omite-30W is compatible with most pesticides. (See caution statements.) Check with your supplier for details. Observe all cautions and limitations on labeling of all products used in mixtures.

CONTAINER DISPOSAL: Burn or bury container 12 inches below soil surface at safe disposal site. Never reuse.

IMPORTANT NOTICE: Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied extends to the use of this product contrary to label instructions or under abnormal conditions, or under conditions reasonably foreseeable to seller, and buyer assumes the risk of any such use.

DANGER! KEEP OUT OF REACH OF CHILDREN.

Corrosive. Causes skin and eye damage.

Do not get in eyes, on skin or on clothing.

Wear goggles or face shield and rubber gloves when handling.

Harmful if swallowed. Avoid inhaling dust or spray.

Avoid contamination of food.

FIRST AID: In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and wash contaminated clothing before reuse. If swallowed, drink promptly a large quantity of milk, egg whites, gelatin solution, or, if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately.

For other precautionary statements, see below.

OMITE® - 4D

AGRICULTURAL MITICIDE

A dry dust formulation used to control two-spotted spider, Pacific spider, strawberry spider and Willamette mites.

Omite-4D is not systemic in action; therefore complete coverage of both upper and lower leaf surfaces is necessary for effective control.

DOSAGE INSTRUCTIONS

CROP	MITES CONTROLLED	AMOUNT PER ACRE	AREA	TOTAL NUMBER OF APPLICATIONS PER YEAR	DAYS BEFORE HARVEST (LAST APPLICATION)
GRAPES	two-spotted spider Pacific spider strawberry spider Willamette	40 lbs.	California only	2	14

CROP	MITES CONTROLLED	AMOUNT PER ACRE	AREA	TOTAL NUMBER OF APPLICATIONS PER CROP SEASON (BLOOM TO HARVEST)	DAYS BEFORE HARVEST (LAST APPLICATION)
STRAWBERRIES <small>(Do not apply at day temperatures above 70° F as fruit burn may occur)</small>	two-spotted spider Pacific spider strawberry spider	40 lbs.	West of Rockies only	3 <small>(Do not apply more than 3 applications of Omite in any 40 day period during the harvesting season)</small>	3

CAUTION:

1. Do not apply Omite-4D before or following spring and summer foliar spray oils or leaf injury and fruit spotting may occur.
2. Do not use Omite-4D mixed with alkaline materials such as lime, lime sulfur or Bordeaux mixture. The effectiveness of Omite will be reduced.

WARNING

FISH AND WILDLIFE: This product is toxic to fish. Keep out of any body of water. Do not apply when weather conditions favor drift from areas treated. Do not apply where runoff is likely to occur. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on this label.

USE RESTRICTIONS: Do not graze or feed livestock on cover crops grown among the vines listed on this label.

CONTAINER DISPOSAL: Burn or bury container 18 inches below soil surface at safe disposal site. Never reuse.

IMPORTANT NOTICE: Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither this warranty or merchantability or fitness for a particular purpose, expressed or implied, extends to the use of this product contrary to label instructions or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

NET WEIGHT 50 POUNDS

COMPOSITION

Active ingredient Propargite

2-(p-tert-butylphenoxy) cyclohexyl

2-propynyl sulfite * 4.0%

Inert ingredients 96.0%

Total 100.0%

* U.S. PATENT NOS. 3,272,854; 3,463,859

**

11-23-73-50P UNIROYAL CHEMICAL - Division of UNIROYAL, Inc. - Naugatuck, Conn. 06770

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LOT NO. _____

EPA Registration No. 400-88-AA

86

SAMPLE LABEL

WARNING! KEEP OUT OF REACH OF CHILDREN.

(For other warning and caution statements see below)

AA

OMITE®-6E

AGRICULTURAL MITICIDE

A liquid emulsifiable concentrate for preparing sprays to control the two-spotted spider, European red and citrus red mites.

Omite-6E is not systemic in action; therefore complete coverage of both upper and lower leaf surfaces and of fruit is necessary for effective control.

Add recommended dosage (from table) of Omite-6E to the spray tank, agitate and spray thoroughly to cover foliage and fruit for best results.

DOSAGE INSTRUCTIONS

CROPS	MITES CONTROLLED	AMOUNT PER ACRE	Amount per 100 Gallons of Water	GALLONS OF SPRAY SOLUTION PER ACRE	TOTAL NUMBER OF SPRAYS PER YEAR	DAYS BEFORE HARVEST (LAST SPRAY)
			WEST OF ROCKY MOUNTAINS			
Hops	Two-spotted spider	2 pints	1 pint	200	2	14
Lemons Oranges (California only)	Citrus red	4-6 pints	6-12 fluid ounces	600-1500	2	7
Walnuts	Two-spotted spider European red	30-150 fluid ounces	6-10 fluid ounces	500-1500	2	14

APPLICATION NOTES:

1. Omite-6E can be applied by air to walnuts. Use 3 to 4 pints in a minimum of 20 gallons of water per acre.
2. Omite-6E may cause some leaf burn on new growth (feather growth) of oranges and lemons.

HANDLING: Avoid inhaling vapor or spray mist. Do not get in eyes. May cause eye damage. The wearing of goggles is recommended. In case of contact with eyes, flush with running water for 15 minutes and get medical attention. In case of skin contact, wash thoroughly with warm water and soap. May be harmful if swallowed.

FISH AND WILDLIFE: This product is toxic to fish. Keep out of any body of water. Do not apply when weather conditions favor drift from areas treated. Do not apply where runoff is likely to occur. Do not contaminate water by cleaning of equipment or disposal of wastes.

USE RESTRICTIONS: Do not graze or feed livestock on cover crops grown among the vines listed on the label. Do not feed hop refuse or canes to livestock.

COMPATIBILITIES: Omite-6E is compatible with most pesticides (see caution statements). Check with your supplier for details. Observe all cautions and limitations on labeling of all products used in mixtures.

CAUTION:

- A. Leaf injury may occur if the following conditions are not observed.
 1. Do not apply Omite-6E in combination with Diazinon or Guthion WP when air temperatures are above 95° F.
 2. Do not apply Omite-6E before, with or following spring and summer foliar spray oils.
 3. Do not add more than four ounces of additional spray adjuvant per 100 gallons if Omite-6E is used alone. Add no spray adjuvant if Omite-6E is mixed with one or more pesticide formulations in the spray tank.
- B. Omite-6E is not compatible with alkaline materials such as lime, lime sulfur or Bordeaux. The effectiveness of Omite will be reduced.

CONTAINER DISPOSAL: Bury container 18 inches below soil surface at safe disposal site. Never reuse.

IMPORTANT NOTICE: Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither this warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product contrary to label instructions or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

Net Contents: 1 LIQUID GALLON

COMPOSITION

Active Ingredient (% by weight)	
2-(p-tert-butylphenoxy) cyclohexyl	
2-propynyl sulfite *	68.1 % ..
Inert Ingredients	31.9 %
Total	100.0 %

* U.S. Patent Nos. 3,272,854; 3,463,859

** 6 lbs. Active per Gallon

Lot No. _____

UNIROYAL CHEMICAL - Division of UNIROYAL, Inc. - Naugatuck, Connecticut 06770

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another product of



4-73-1G

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WARNING! KEEP OUT OF REACH OF CHILDREN.

For other warning statements see back panel.



WARNING

Do not get in eyes. May cause eye damage. The wearing of goggles is recommended. In case of contact with eyes flush with running water for 15 minutes and get medical attention.

Avoid contact with skin. In case of skin contact, wash thoroughly with warm water and soap.

May be harmful if swallowed.

FISH AND WILDLIFE: Keep out of any body of water. This product is toxic to fish. Do not contaminate water by cleaning of equipment or disposal of wastes.

IMPORTANT NOTICE: Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither his warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied extends to the use of this product contrary to label instructions or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

FOR MANUFACTURING USE ONLY

Net Wgt.: _____

COMPOSITION

Active Ingredient 2-(p-tert-butylphenoxy) cyclohexyl 2-propenyl sulfite	85%
Inert Ingredients	15%
TOTAL	100%

U.S. PATENT NOS. 3,272,854 and 3,463,859

EPA Reg. No. 400-95-AA

LOT NO. _____

372

UNIROYAL CHEMICAL — Division of UNIROYAL, INC.
Naugatuck, Connecticut 06770

Made in U.S.A.

DANGER! KEEP OUT OF REACH OF CHILDREN.

Corrosive. Causes skin and eye damage.
Do not get in eyes, on skin or on clothing.
Wear goggles and a face shield and rubber gloves when
handling. Harmful if swallowed. Do not inhale dust or
spray. Avoid contamination of food.

FIRST AID: In case of contact, immediately flush eyes or
skin with plenty of water for at least 15 minutes. For eyes,
call a physician. Remove and wash contaminated clothing
before reuse. If swallowed, drink promptly a large
quantity of milk, egg whites, gelatin solution, or, if these
are not available, drink large quantities of water. Avoid
alcohol. Call a physician immediately.

For other precautionary statements see back panel.

COMITE

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COMITETM

AGRICULTURAL MITICIDE

A liquid emulsifiable concentrate for preparing sprays to control the two-spotted, Pacific and strawberry spider mites.

Comite is not systemic in action; therefore, complete coverage of both upper and lower leaf surfaces is necessary for effective control.

Add recommended dosage (from tablet) of Comite to the spray tank, agitate and spray thoroughly to cover foliage for best results.

Crop	Mites Controlled	Height of Cotton	Amount of COMITE Per Acre	Gallons of Spray		Total Number of Sprays Per Year	Last Spray
				Solution Per Acre	Aerial Application		
Cotton	Two-spotted, Pacific and strawberry spider	10 to 18 inches **	1 pint	15 to 30 gallons	No! recommended	3	Before bolls open
		14 to 24 inches	1½ pints	25 to 40 gallons			
		Over 24 inches	1½ to 2 pints	25 to 50 gallons			

APPLICATION NOTES

- COMITE may be used in concentrate sprays. Use only sprayers designed for concentrate row crop applications. Maintain COMITE dosage rate as listed.
- COMITE may be phototoxic on young cotton under certain conditions. Consult your Uniroyal representative before spraying cotton less than 10 inches in height.

SPRAY ADJUVANTS

UNIROYAL SPRINT-38 is recommended for best results with COMITE. The following rates are suggested:
Ground Sprays • 1 pt. SPRINT-38 per 100 gallons water
Aerial Sprays • 2 pts. SPRINT-38 per 100 gallons water
Concentrate Sprays • 2 pts. SPRINT-38 per 100 gallons water
Spray adjuvants other than SPRINT-38 should be used with caution and are not recommended for use with COMITE.

CONTAINER DISPOSAL - Bury container in intact soil surface at safe disposal site. Never reuse.

COMPATIBILITY

Comite is compatible with most pesticides (see caution statements). Check with your supplier for details. Observe all cautions and limitations on labeling of all products used in mixtures.

EPA REG. NO. 400-104-AA

EPA Est. No.



CAUTION!
Do not mix Comite with alkaline materials (such as lime, Soda ash, ammonia and lime sulfite) or with materials containing a large amount of petroleum type solvents.

UNIROYAL Chemical Division of UNIROYAL, Inc., Naugatuck, Conn. 06770
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*U.S. Patents 3,272,854; 3,463,859
**Contains 6.75 pounds COMITE per gallon.

DANGER! KEEP OUT OF REACH OF CHILDREN.

Corrosive. Causes skin and eye damage.
Do not get in eyes, on skin or on clothing.
Wear goggles or face shield and rubber gloves when
handling. Harmful if swallowed. Do not inhale dust.
Avoid contamination of food.

FIRST AID: In case of contact, immediately flush eyes or
skin with plenty of water for at least 15 minutes. For eyes,
call a physician. Remove and wash contaminated clothing
before reuse. If swallowed, drink promptly a large
quantity of milk, egg whites, gelatin solution, or, if these
are not available, drink large quantities of water. Avoid
alcohol. Call a physician immediately.

For other precautionary statements see back panel.

UNIROYAL[®]

DUST BASE CONCENTRATE

90

WARNING!

FISH AND WILDLIFE: This product is toxic to fish and shrimp.
Keep out of any body of water. Do not contaminate water by
cleaning of equipment or disposal of wastes.

CONTAINER DISPOSAL: Do not reuse empty container.
Destroy it by perforating or crushing. Bury or discard in a safe
place away from water supplies.

IMPORTANT NOTICE: Seller warrants that this product conforms to its chemical
description and is reasonably fit for the purpose stated on the label when used in
accordance with the directions and instructions specified on the label under normal
conditions of use, but neither this warranty nor any other warranty of
merchantability or fitness for a particular purpose, express or implied, extends to
the use of this product contrary to label instructions or under conditions not
reasonably foreseeable to seller, and buyer assumes the risk of any such use.

Net Weight _____

COMPOSITION

Active Ingredient (% by weight)
Propargite: 2-(p-tart-butylphenoxy)cyclohexyl
2-propynyl sulfite** 25%
Inert Ingredients 75%
Total 100%

EPA Reg. No. 400-105-AA

EPA E- No.

*See Technical Bulletin No. AG103
for additional information.

**U.S. Patent No. 272,854 and 3,463,859

UNIROYAL CHEMICAL, Division of UNIROYAL, Inc.

Mfg. in U.S.A.

WILBUR-ELLIS COMPANY

DIAZINON 2 - OMITE® 4 DUST

State Reg. No. 1227-50067-AA

ACTIVE INGREDIENTS:

O, O-diethyl O-(2-isopropyl-4-Methyl-6-pyrimidinyl) phosphorothioate	2%
2-(p-tert-butylphenoxy) cyclohexyl 2-propynyl sulfite*	4%
INERT INGREDIENTS:	94%

OMITE® is a registered trademark of Uniroyal Chemical, Division of Uniroyal, Inc.

*U. S. Patent Nos. 3,272,854 and 3,463,859.

READ LABEL BEFORE USING THIS PRODUCT

This product is suitable for use in ground or aerial equipment subject to local restrictions. Do not dilute or mix with other materials. Uniform application is essential for good results. Do not use this product for any purpose not recommended on this label, and do not apply more than recommended dosages. Do not apply under conditions that may permit this material to drift onto other crops. Do not re-use empty bags. Dispose of bags in accordance with local laws and regulations.

RECOMMENDATIONS FOR USE:

STRAWBERRIES: Use 40-lbs. per acre to control Aphids, Strawberry Leaf Rollers; Two-Spotted, Pacific and Strawberry Spider Mites. Apply as necessary but no more than three applications can be made per crop season (bloom to harvest). Do not apply within 5-days of harvest. Do not apply at day temperatures above 95° F. Do not apply more than 3-applications in any 60-day period during the harvesting season.

This product may cause eye damage. The wearing of goggles is recommended. In case of contact with eyes, flush with running water 15-minutes and get medical attention.

KEEP OUT OF REACH OF CHILDREN AND DOMESTIC ANIMALS!

HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN!

Do not breathe dust. Do not get in eyes, on skin or on clothing. May cause irritation of eyes, nose and throat. In case of contact with skin or eyes, flush with plenty of water; for eyes, get medical attention. Wash hands, arms and face thoroughly with soap and water after handling and before eating or smoking; wear clean clothing. Do not apply or allow to drift to areas occupied by unprotected humans or beneficial animals.

DO NOT STORE NEAR OR CONTAMINATE FEED OR FOOD PRODUCTS!

To protect fish and wildlife, do not contaminate streams, lakes or ponds with this product.

NOTICE: The statements made on this label are believed to be true and accurate, but because of conditions of use which are beyond our control, WILBUR-ELLIS COMPANY does not make, nor does it authorize any agent or representative to make, any warranty, guarantee or representation, express or implied, concerning this material or the use thereof, except in conformity with the statements on the label. Neither WILBUR-ELLIS COMPANY nor the seller shall be held responsible in any manner for any personal injury or property damage or loss resulting to the buyer or to the other person from handling, storage or use of this material, not in accordance with directions. The buyer assumes all risk and liability resulting from improper handling, use or use and accepts and uses this material on these conditions.

970 South Goodrich Blvd.

Los Angeles, Calif. 90022

WILBUR-ELLIS COMPANY

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MULVA VISTA
OXNARD

DIBROM 4 - OMITE® 4 DUST

State Reg. No. 1227-50068-AA

ACTIVE INGREDIENTS:

*Naled	4%
2-(p-tert-butylphenoxy) cyclohexyl 2-propynyl sulfite**	4%
INERT INGREDIENTS:	92%

*1,2-dibromo-2,2-dichloroethyl dimethyl phosphate.

**OMITE® is a registered trademark of Uniroyal Chemical, Division of Uniroyal, Inc. U. S. Patent Nos. 3,272,854 and 3,463,859.

RECOMMENDATIONS FOR USE:

STRAWBERRIES: Use 40-lbs. per acre to control Aphids, Omnivorous Leaf Tier, Spittlebugs; Two-Spotted, Pacific and Strawberry Spider Mites. Apply as necessary but no more than three applications can be made per crop season (bloom to harvest). Do not apply within 4-days of harvest. Do not apply at day temperatures above 80° F. Do not apply more than 3-applications in any 60-day period during the harvesting season.

HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN!

Do not breathe dust. Do not get in eyes, on skin or on clothing. May cause irritation of eyes, nose and throat. In case of contact with skin or eyes, flush with plenty of water; for eyes, get medical attention. Wash hands, arms and face thoroughly with soap and water after handling and before eating or smoking; wear clean clothing. Do not apply or allow to drift to areas occupied by unprotected humans or beneficial animals.

DO NOT STORE NEAR OR CONTAMINATE FEED OR FOOD PRODUCTS!

To protect fish and wildlife, do not contaminate streams, lakes or ponds with this product.

NOTICE: The statements made on this label are believed to be true and accurate, but because of conditions of use which are beyond our control, WILBUR-ELLIS COMPANY does not make, nor does it authorize any agent or representative to make, any warranty, guarantee, express or implied, concerning this material or the use thereof, except in conformity with the statements on the label. Neither WILBUR-ELLIS COMPANY nor the seller shall be held responsible in any manner for any personal injury or property damage or loss resulting to the buyer or to the other person from handling, storage or use of this material, not in accordance with directions. The buyer assumes all risk and liability resulting from improper handling, storage or use and accepts and uses this material on these conditions.

970 South Goodrich Blvd. • ONWARD
Los Angeles, Calif. 90022
WILBUR-ELLIS COMPANY



WIL-O-MITE DUST

CONTAINS 4% OMITE®

RECOMMENDATIONS FOR USE:

STRAWBERRIES: Use 40 lbs. per acre to control TWO-SPOTTED MITES. Do not apply within 3 days of harvest. Do not make more than three applications per crop season [bloom to harvest]. Do not apply at day temperatures above 95° F. Do not apply more than 3 applications in any 60 day period during the harvesting season.

GRAPES: For the control of WILLAMETTE, PACIFIC, STRAWBERRY, and TWO-SPOTTED SPIDER MITES use 40 lbs. per acre. Do not apply within 14 days of harvest. Observe all precautionary statements on label. Do not apply more than 2 applications per year.

ACTIVE INGREDIENTS:

2-[<i>p</i> -tert-butylphenoxy] cyclohexyl 2-propynyl sulfite*	4.00 %
INERT INGREDIENTS:	96.00 %
TOTAL	100.00 %

State Reg. No. 1227-50081-AA

KEEP OUT OF REACH OF CHILDREN AND DOMESTIC ANIMALS!

CAUTION:

1. Do not apply before or following spring and summer foliar spray oils or leaf injury and fruit spotting may occur.
2. This product is suitable for use in ground or aerial equipment, subject to local restrictions.
3. Do not dilute or mix with other materials.
4. Do not graze or feed livestock on cover crops grown among the vines listed on this label.

OMITE® is a registered trademark of Uniroyal Chemical, Division of Uniroyal, Inc.

* U. S. Patent Nos. 3,272,854 and 3,463,859

HANDLING: Avoid inhaling vapor or dust. Do not get in eyes. May cause eye damage. The wearing of goggles is recommended. In case of contact with eyes, flush with running water for 15 minutes and get medical attention. In case of skin contact, wash thoroughly with warm water and soap. May be harmful if swallowed. Do not store near or contaminate feed or food products.

FISH AND WILDLIFE: This product is toxic to fish. Keep out of any body of water. Do not apply when weather conditions favor drift from areas treated. Do not apply where runoff is likely to occur. Do not contaminate water by cleaning of equipment or disposal of wastes.

CONTAINER DISPOSAL: Never reuse. Dispose of container in accordance with state and local regulations.

CMIITE® 4 - BENOMYL 1 DUST

ACTIVE INGREDIENTS:

2-(<i>p</i> -tert-butyl phenoxy) cyclohexyl 2-propynyl sulfite	4%
Benomyl [Methyl 1-(butyl carbamoyl)-2-benzimidazolecarbamate]	1%
INERT INGREDIENTS:	95%
	100%

OMITE® is a registered trademark of Uniroyal Chemical, Division of Uniroyal, Inc., U. S. Patent Nos. 3,272,854 and 3,463,859.

READ LABEL BEFORE USING THIS PRODUCT

This product is suitable for use in ground or aerial equipment, subject to local restrictions. Do not dilute or mix with other materials. Uniform application is essential for good results. Do not use this product for any purpose not recommended on this label, and do not apply more than recommended dosages. Do not apply under conditions that may permit this material to drift onto other crops. Do not re-use empty bags. Dispose of bags in accordance with local laws and regulations.

RECOMMENDATIONS FOR USE:

STRAWBERRIES: For Two-Spotted Mites, Gray Mold, Powdery Mildew, Leaf Scorch, Leaf Blight and Leaf Spot, apply 40-lbs. per acre. Do not apply within 3-days of harvest. Do not make more than three applications per crop season (bloom to harvest). Do not apply at day temperatures above 90° F. Do not apply more than three applications in any 60-day period during the harvesting season.

WARNING:

This product may cause eye damage. The wearing of goggles is recommended. In case of contact with eyes, flush with running water 15-minutes and get medical attention.

CAUTION!
KEEP OUT OF REACH OF CHILDREN AND DOMESTIC ANIMALS!
HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN!

Do not breathe dust! Do not get in eyes, on skin or on clothing. May cause irritation of eyes, nose and throat. In case of contact with skin or eyes, flush with plenty of water; for eyes, get medical attention. Wash hands, arms and face thoroughly with soap and water after handling and before eating or smoking; wear clean clothing. Do not apply or allow to drift to areas occupied by unprotected humans or beneficial animals.

DO NOT STORE NEAR OR CONTAMINATE FEED OR FOOD PRODUCTS!

To protect fish and wildlife, do not contaminate streams, lakes or ponds with this product.

NOTICE: The statements made on this label are believed to be true and accurate, but because of conditions of use which are beyond our control, WILBUR-ELLIS COMPANY does not make, nor does it authorize any agent or representative to make, any warranty, guarantee, express or implied, concerning this material or its use thereof, except in conformity with the statements on the label. Neither WILBUR-ELLIS COMPANY nor the seller shall be held responsible in any manner for any personal injury or property damage or loss resulting to its buyer or to the other person from handling, storing or use of this material, not in accordance with directions. The buyer assumes all risk and liability resulting from improper handling, storage or use and accepts and uses this material on these conditions.

MANUFACTURED IN U. S. A.

970 South Goodrich Blvd.

XNARD

Labels of Some Pesticide Products
Which May be Used as Alternates to
Omite and Comite in California

AA

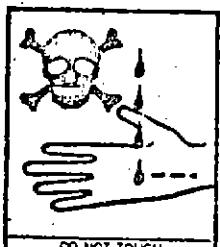
DANGER—POISON—PRECAUTIONS



DO NOT SWALLOW

POISONOUS IF SWALLOWED

This product can kill you if swallowed even in small amounts: spray mist or dust may be fatal if swallowed.



DO NOT TOUCH

POISONOUS BY SKIN CONTACT

Poisonous if touched by hands or spilled or splashed on skin, in eyes or on clothing (liquid goes through clothes.)



DO NOT BREATHE

POISONOUS IF BREATHED

Breathing vapors, spray mist or dust may be fatal.

POISONOUS TO FISH AND WILDLIFE

This product is toxic to fish and wildlife. Birds and other wildlife in treated areas may be killed. Keep out of any body of water. Do not apply when weather conditions favor drift from treated areas. Do not apply where run-off is likely to occur.

CODE
749

Catifornia



STOP! READ THE LABEL!



DAN

Keep out
of h

CAN KILL YOU

PARATHION 4 EMULSIFIA

ACTIVE INGREDIENTS:

Parathion: O, O-Dethyl-O-p-nitrophenyl thiophosphate
Xylene base aromatic petroleum solvent

INSECTICIDE

INERT INGREDIENTS:

Contains 4 pounds Parathion per gallon.



043W

AMERICAN CYANAMID COMPANY
DIVISION OF FMC CORPORATION
MIDDLETON, MASS.
RICHMOND, CALIF. & VANTA, WASHINGTON



NOT FOR HOME USE

FMC - CAT I -
LD50 oral 3.6
dermal 6.8

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ES (14): Aphids, Lygus Bugs, Leafhoppers, Strawberry Leafroller,
- Use $\frac{1}{2}$ to $\frac{2}{3}$ pint per 100 gallons. By airplane use 1 pint per acre.
Aphids, Mexican Bean Beetle, Potato Leafhopper - Use 1 pint per acre.
S: Leafhoppers, Cabbage Looper, Aphids, Leafminer, Whitefly, Army-
Use 1 to $1\frac{1}{2}$ pints per acre.

(10), BROCCOLI (7), BRUSSELS SPROUTS (7), COLLARDS (10), KALE (10),
(10): Aphids, Serpentine Leafminer (on collards, kale, mustard), Imported
Cabbage Looper and Vegetable Weevil - Use 1 pint per acre.

7): Aphids, Celery Leaf Tier and Spider Mites - Use 1 pint per acre.
RS (15), MELONS (7) and SQUASH (15): Aphids, Cucumber Beetle, Leaf-
Spider Mites, Melonworms and Pickleworms - Use $\frac{1}{2}$ to 1 pint per
Squash Bugs use 1 pint per acre. Do not apply on cucumbers before
Head 7) (Leaf 21): Aphids, Leafhoppers, Leafminers, Cabbage Loopers,
- Use 1 pint per acre.

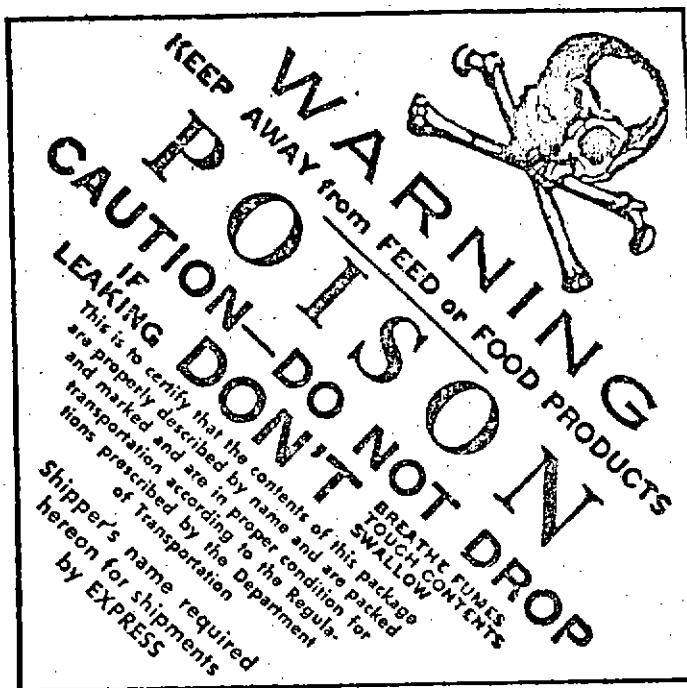
3): Aphids, Serpentine Leafminer and Stink Bugs - Use 1 pint per acre.
.5): Aphids and Thrips - Use 1 pint per acre.

5 (5): Aphids, Blister Beetles, Leafhoppers, Leafminers, Plant Bugs, Thrips
Cable Weevils - Use 1 pint per acre.

(14): Aphids, Leafminer, Seed Corn Maggot In Crowns - Use 1 pint

ES (10): Aphids, Leafminers, Spider Mites and Tomato Russet Mites -
per acre.

Cotton Aphid, Spider Mites, Stink Bugs, Southern Garden Leafhopper -
rt per acre. Cotton Leafworm - Use $\frac{1}{2}$ pint per acre. Cotton Leaf Per-
Use $\frac{1}{2}$ quart per acre. Do not apply within 7 days of hand picking.
entering fields within 24 hours after application should wear protective
EATMENT: BEANS, BEETS, CARROTS, CORN, CABBAGE, CAULIFLOWER,
SWEET POTATOES, ORNAMENTALS: For Wireworms - Use 2 to 6 quarts
as a broadcast preplanting treatment. The lower rate of application should
on mineral soils while muck soils will require the higher dosage. After
material is evenly distributed over the soil surface, it should be thoroughly
into the top six to nine inches of soil with a double disk harrow. Appli-
should be made at least one to two weeks before planting. Keep all persons
in treated area for 48 hours. Do not contaminate ponds or streams.



PARATHION MIXTURE, LIQUID

SEE LABEL FOR FURTHER DIRECTIONS

Carzol 20

CAT 1



Carzol SP

MITICIDE / INSECTICIDE

E.P.A. REG. NO. 2139-99

ACTIVE INGREDIENT:

Formetanate hydrochloride* 92%

INERT INGREDIENTS: 8%

*n-[[[Dimethylamino)methylene]amino] phenylmethylcarbamoyl monohydrochloride



POISON DANGER



KEEP OUT OF REACH OF CHILDREN

Not for use or storage in or around the home.
Call a physician immediately in case of exposure.

This product is poisonous if swallowed. Do not get in eyes, on skin or on clothing. Do not breathe dust or spray mist. Do not contaminate food and feedstuffs. Wear protective clothing, goggles and rubber (natural or synthetic) gloves when handling this material. Wash before eating or smoking. Wash contaminated clothing before re-use.

If exposure to dust or spray mist cannot be avoided wear a self-contained breathing apparatus.

ANTIDOTES:

If swallowed—give a tablespoon of salt in a glass of warm water and repeat until vomit fluid is clear. Have patient lie down and keep quiet. Call a physician immediately. If on skin—wash immediately with soap and water. If in eyes—flush with water for at least 15 minutes and get medical attention.

NOTICE TO PHYSICIAN:

CARZOL SP is a carbamate which acts as a cholinesterase inhibitor.

Specific antidote—Atropine.

Do not use 2-PAM.

See Rear Label For Additional Precautions and Directions For Use.

U.S. PAT. NO'S. 3336186—3542853

NET CONTENTS: 2½ POUNDS



MANUFACTURED FOR

NOR-AM

AGRICULTURAL PRODUCTS, INC.
CHICAGO, ILLINOIS 60606

IMPORTANT:

READ BEFORE PURCHASE OR USE

Purchase or use of this product shall constitute acceptance of the following terms of sale. NOR-AM Agricultural Products, Inc. (NOR-AM) warrants that this product conforms to the chemical descriptions on this label and is reasonably fit for the purposes specified hereon. By way of limitation but not in derogation of the directions and statements printed on this label, Seller makes no warranty and no representation and NOR-AM makes no further warranty or representation, expressed or implied, including but not limited to any warranty as to MERCHANTABILITY, and no agent of NOR-AM is authorized to do so except in writing, with a specific reference to the foregoing warranty. Since neither Seller nor NOR-AM has any control over the handling, storage, use or conditions of use of this product, Buyer or user assumes all risks and liability arising from handling, storage or use of this product under abnormal conditions or not in strict compliance with the directions and precautionary statements hereon. All claims related to the purchase, handling, storage or use of this product shall be barred unless written notice is given to NOR-AM within 30 days after the loss is discovered. Liability of the Seller or NOR-AM for any damages arising from a breach of this warranty shall be limited to exclude consequential commercial damages.

Product of U.S.A.

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Printed in U.S.A.

DIRECTIONS FOR USE

CARZOL SP is completely soluble in water. Preparation of a premix or slurry before adding to the spray tank is not necessary. Add the desired amount of CARZOL directly to the spray tank $\frac{1}{2}$ full of water with the agitator running. Then add the remainder of the water.

NOTICE: CARZOL SP is not stable in alkaline water. Do not prepare the spray mixture until just before application. Do not prepare more spray mixture than will be used within 4 hours.

CROP	PEST	APPLICATION
ORANGES, LEMONS AND TANGERINES (California & Arizona only)	THRIPS	Use 8 oz. CARZOL SP per 100 gallons of water. Apply for outside coverage in 100 to 300 gallons of water per acre ($\frac{1}{2}$ to $1\frac{1}{2}$ lbs. CARZOL SP per acre) depending on the size of the trees. Repeat application as needed.
	RED MITE	Use 8 oz. CARZOL SP per 100 gallons of water. Apply in a full coverage spray in 700 to 1000 gallons of water per acre (3 $\frac{1}{2}$ to 5 lbs. CARZOL SP per acre) depending on the size of the trees.
ORANGES, LEMONS, TANGERINES AND GRAPEFRUIT (in Florida)	RUST MITE	Use 1 to 2 oz. CARZOL SP per 100 gallons of water, apply in full coverage spray. Use 7 to 20 oz. CARZOL SP per acre depending on the size of the trees. Repeat application as needed.
ORANGES, LEMONS, TANGERINES AND GRAPEFRUIT (in Texas)	RUST MITE	Use 2 to 4 oz. CARZOL SP per 100 gallons of water, apply in full coverage spray. Use 10 to 20 oz. CARZOL SP per acre depending on the size of the trees. Repeat application as needed.
APPLES AND PEARS	EUROPEAN RED MITE, TWO-SPOTTED TEE MITE	Use 4 to 8 oz. CARZOL SP per 100 gallons of water. Apply in full coverage sprays in 400 to 800 gallons of water per acre (1 to 4 lbs. of CARZOL SP per acre) depending on the size of the trees and severity of the mite infestation. Repeat application as needed.
PEACHES AND NECTARINES (West Coast only)	TWO-SPOTTED MITE EUROPEAN RED MITE MCDANIEL MITE	Apply 4 oz. CARZOL SP per 100 gallons of spray (1 to $1\frac{1}{2}$ lbs. CARZOL SP per acre) when mites appear. Repeat as necessary.
NECTARINES (California only)	THRIPS	Apply 8 oz. CARZOL SP per 100 gallons of spray (2 lbs. CARZOL SP per acre) when thrips infest blossoms through petal fall. Apply at night or while bees are not working in the blossoms.
PLUMS, PRUNES (West Coast only)	TWO-SPOTTED MITE EUROPEAN RED MITE	Apply 4 oz. CARZOL SP per 100 gallons of spray (1 to $1\frac{1}{2}$ lbs. CARZOL SP per acre) when mites appear. Repeat as necessary.
ALFALFA (Seed crop only, in Calif., Oregon, Washington, Idaho and Nevada. Use pre-bloom only on alfalfa in all areas except California.)	LYGUS BUGS	Use $\frac{1}{2}$ to 1 lbs CARZOL SP per acre. Apply when lygus bugs reach damaging numbers. Repeat application as needed. Consult your State Agricultural Experiment Station or State Extension Service Specialists for proper timing.
	CONSPERSE STINK BUGS (California only)	Use 1 lb. CARZOL SP per acre for knockdown of heavy nymphal population. A lygus control program will control stink bugs. When applied by air on alfalfa, use a minimum of 5 gallons per acre. When applied by ground use a minimum of 20 gallons per acre.

NOTE

To avoid excessive residues, observe the following limitations: CITRUS: Do not apply more than 5 lbs. CARZOL SP per acre in a 12 month period. Allow 30 days between applications and 7 days before harvest. APPLES, PEARS: Do not apply more than 4 lbs. CARZOL SP per acre in one crop season. Do not apply less than 7 days before harvest. PEACHES: Do not apply more than $2\frac{1}{2}$ lbs. CARZOL SP per acre in one crop season. Do not apply less than 21 days before harvest. NECTARINES: Do not apply more than 4 lbs. per acre in one crop season. Do not apply less than 14 days before harvest. PLUMS, PRUNES: Do not apply more than 3 lbs. per acre in one crop season. Do not apply less than 7 days before harvest. ALFALFA (seed crop only): Use this product only on pure stands of alfalfa to be harvested for seed. Do not allow spray to drift onto adjacent crops. Do not spray while bees are foraging. Do not allow livestock to graze treated fields. Do not use treated crops for livestock feed. Crop residues are not to be fed to livestock or baled for such use. Fields treated with CARZOL SP must be cleared after harvest by burning or by disking into the soil. CARZOL SP does not control aphids. If aphids appear add an aphicide to the spray.

DANGER

This product is toxic to birds and other wildlife. Do not contaminate any body of water with this material. Apply only as specified on this label. Dispose of left-over material or empty containers by burning or burying in non-crop land away from water supplies. Stay out of smoke. Do not re-use container. CARZOL SP is moderately toxic to honey bees. Avoid using where bees are active. Do not allow animals to graze in orchard areas treated with CARZOL SP.

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AGRICULTURAL PRODUCTS, INC.
CHICAGO • NEW YORK • ATLANTA • LOS ANGELES

TOMATOES (7): Aphids, Leafminers, Leafhoppers — Use $\frac{3}{4}$ to $1\frac{1}{2}$ pints per acre.

WATERMELONS (3): Aphids, Leafminers, Leafhoppers — Use $\frac{3}{4}$ to $1\frac{1}{2}$ pints per acre.

FOR THE CONTROL OF CABBAGE WORMS AND CABBAGE LOOPERS, THE ABOVE RATES OF CYGON 267 CAN BE USED IN COMBINATION WITH THIODAN, MALATHION OR PARATHION IN ACCORDANCE WITH MANUFACTURERS' DIRECTIONS.

ALFALFA (grown for hay): Aphids, Leafhoppers, Lygus Bugs, Grasshoppers, Reduction of Alfalfa Neevil Larvae — Use $\frac{3}{4}$ to $1\frac{1}{2}$ pints per acre. Do not apply to alfalfa in the bloom period. Do not apply within 10 days of harvest or pasturing. Make only one application per season, effective only on cutting to which applied.

ALFALFA GROWN FOR SEED: Aphids, Leafhoppers, Lygus Bugs, Grasshoppers, Reduction of Alfalfa Neevil Larvae — Use $\frac{3}{4}$ to $1\frac{1}{2}$ pints per acre. Do not apply to alfalfa during bloom period. Do not feed or graze livestock in treated crops, hay, stubble or threshings within 10 days of application. *OTTON (grown in Calif. and Ariz.) (14): Lygus Bugs, Leafhoppers, Black Fleahoppers — Use $\frac{3}{4}$ to $1\frac{1}{2}$ pints per acre. Do not repeat applications within 14 days. At the higher rate make only two applications per season. Do not feed treated forage or graze livestock on treated fields.

*OTTON (Early Season) (14): Aphids, Mites, Thrips, Fleahoppers — Use $1\frac{1}{3}$ to $2\frac{1}{3}$ pint per acre, do not repeat applications within 14 days. Do not feed treated forage or graze livestock on treated fields.

AFFLOWER (grown in Calif.) (14): Aphids, Leafhoppers, Lygus Bugs, Thrips — Use $\frac{3}{4}$ to $1\frac{1}{2}$ pints per acre. Repeat applications should not be made at intervals closer than 14 days. Make only two applications per season at the higher rate.

ORGUM (Milo) (28): Aphids — For moderate to heavy infestations use $\frac{3}{4}$ to $1\frac{1}{2}$ pints per acre, or light infestations use $1\frac{1}{3}$ to $2\frac{1}{3}$ pint per acre by ground equipment for complete coverage. $\frac{1}{2}$ to 10 gallons by aircraft equipment. Make only three applications per season.

ITRUS (non-bearing) (Calif. and Ariz.): Thrips, Aphids — FOLIAR SPRAY: $1\frac{1}{2}$ pints CYGON 267 per 100 gallons of water. Repeat applications as necessary. CYGON 267 should be used only on nursery stock and nonbearing trees. Do not apply in the year trees begin to bear a crop. Consult our State Agricultural Experiment Station or State Agricultural Extension Service for programming of applications.

EMONS, ORANGES, GRAPEFRUIT, TANGERINES: (Do not apply during bloom period. Do not use on citrus seedlings. Make no more than 2 applications to mature fruit. Do not enter treated groves within 4 days of last application). **Aphids — Ground Equipment:** Use $\frac{3}{4}$ to $1\frac{1}{2}$ pints per 100 gallons of water. Apply as an outside coverage spray. Aircraft Equipment: Use 3 to 6 pints per acre in 15 to 20 gallons of water. Do not apply within 15 days of harvest. **Mites (except dust Mites) — Ground Equipment:** Use $\frac{3}{4}$ to $1\frac{1}{2}$ pints per 100 gallons of water. Apply as a

thorough distribution coverage spray. Do not apply within 15 days of harvest. Scales (except Black or Snow) — **Ground Equipment:** Use $1\frac{1}{2}$ to $2\frac{1}{4}$ pints per 100 gallons of water. Apply as a "thorough" coverage spray. Do not apply within 45 days of harvest. **Thrips — Ground Equipment:** Use $\frac{3}{4}$ to $1\frac{1}{2}$ pints per 100 gallons of water. Apply as a mist spray. Aircraft Equipment: Use 3 to 6 pints per acre in 15 to 20 gallons of water. Do not apply within 15 days of harvest. **Whiteflies — Ground Equipment:** Use $1\frac{1}{2}$ pints per 100 gallons of water. Apply as a thorough distribution coverage spray. Do not apply within 15 days of harvest!

APPLES (28), PEARS (28): Aphids, Leafhoppers, Pear Psylls, Mites (except Rust Mites) — Use $\frac{3}{4}$ to $1\frac{1}{2}$ pints per 100 gallons of water. Do not apply during the bloom period.

PECANS (31): Aphids, Leafhoppers, Mites — Use in ground equipment only at the rate of 1 pint per acre. Do not graze livestock in treated groves.

*CYGON is the trademark of American Cyanamid Company, Princeton, N.J.

Do not apply when weather conditions favor drift from the areas treated. Do not apply when run-off is likely to occur. Do not use in a manner or at a time other than in accordance with label directions because animal, plant or crop injury, illegal residues or other undesirable results may occur.

Dealers Should Sell in Original Packages Only.
TERMS OF SALE OR USE: On purchase or use of this product buyer and user agree to the following conditions:

WARRANTY: Niagara warrants that this product, as of the time of sale by Niagara, (1) conforms to the ingredient statement on the label, and (2) is reasonably fit for the purposes set forth in the Directions for Use. EXCEPT AS SO WARRANTED THE PRODUCT IS SOLD AS IS. NIAGARA MAKES NO OTHER WARRANTY EXPRESS OR IMPLIED.

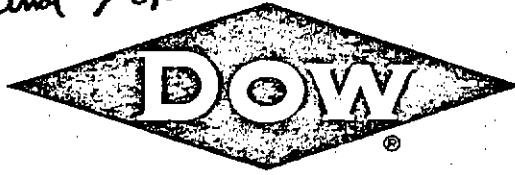
DAMAGES: Buyer's or user's exclusive remedy for damages for breach of warranty or negligence shall be limited to direct damages not exceeding the purchase price paid and shall not include incidental or consequential damages. Notice of any claim must be reported to Niagara within 10 days of discovery by buyer or user, failing which buyer or user waives any claim for such damage.

EXCUSE FROM NONCONTROLLABLE CONDITIONS: Because of certain critical conditions created or incurred by buyer or user or over which Niagara has no control, buyer and user, as a condition of purchase or use, assume responsibility for and release Niagara from, liability arising out of the handling or use of the product attributable to such causes. No person is authorized to vary or waive any statement contained herein.

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CAT 2
LSD 540 over 540
Demand 72,000

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WARNING

KEEP OUT OF REACH
OF CHILDREN AND ANIMALS
MAY BE HARMFUL
IF SWALLOWED
MAY CAUSE SKIN AND
RESPIRATORY IRRITATION

Do not Get in Eyes
on Skin or Clothing
Do not Breathe Dust
or Spray Mist

Wear Goggles or a Face Mask
when Pouring Product from Bag
Wash Thoroughly after Handling
and Spraying
Do Not Wear
Contaminated Clothing

In case of contact flush eyes with plenty
of water. If irritation persists or develops
get medical attention.

During commercial application or pro-
longed exposure as in spray mixing and
loading operations use goggles and a
face mask.

NOTICE: Seller warrants that the product con-
forms to its chemical description and is rea-
sonably fit for the purpose stated on the label
when used in accordance with directions under
normal conditions of use, but neither this war-
ranty nor any other warranty of MERCHANT-
ABILITY or FITNESS FOR A PARTICULAR PUR-
POSE, express or implied, extends to the use of
this product contrary to label instructions, or
under abnormal conditions, or under conditions
not reasonably foreseeable to seller, and buyer
assumes the risk of any such use.

Licensed for use under U.S. Patent No. 3,264,177

PLICTRAN 50W Miticide

Waterable Powder Formulation
For Control of Plant-feeding Mites on
Almonds, Apples, Citrus, Nectarines,
Peaches, Pears, Plums (Prunes), Strawberries,
Walnuts and Ornamentals

ACTIVE INGREDIENT:
MITICIDE: MURHYDROXIDE 50.0%

INERT INGREDIENTS 50.0%

EPA Registration No. 460-393/VA
EPA EX 460-MI-2

WARNING

KEEP OUT OF REACH OF CHILDREN
Read Complete Label Directions on Side Panel

2LB

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN 48640

86-1247 PRINTED IN U.S.A. IN JUNE 1974 9 AM 9/4/81

REPLACES SPECIMEN LABEL 86-1247 PRINTED IN JANUARY, 1974.

SECTION
INSPECTION

REVISIONS INCLUDE: ADDITION OF USES IN PEACHES, PLUMS,
NECTARINES, ALMONDS, WALNUTS AND STRAWBERRIES.

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PLICTRAN® 50W Miticide

See Side Panel for Additional Directions

DOSAGE RECOMMENDATIONS PER APPLICATION

SPECIMEN LABEL

USE PRECAUTIONS

Do not graze or feed livestock on cover crops growing in treated areas.

Avoid contamination of food, feedstuffs and domestic water supplies.

This product is toxic to fish, shrimp and crab. Keep out of any body of water. Do not apply where runoff is likely to occur. Do not contaminate water by cleaning of equipment, or disposal of wastes. Shrimp and crab may be killed at application rates recommended on this label. Do not apply where these are important resources. Apply this product only as specified on this label.

Rinse equipment and dispose of wastes by burying in noncroplands away from water supplies. Dispose of empty containers by burying with wastes or by burning.

DIRECTIONS FOR USE

General Information: PLICTRAN 50W miticide is recommended for control of motile forms of plant-feeding mites; including strains both susceptible and resistant to other miticides. A wide range of species are controlled as indicated for each crop in the Table. PLICTRAN 50W is not highly injurious to certain predatory mites and insects and is essentially nontoxic to honeybees. PLICTRAN 50W is compatible with insecticides and fungicides commonly recommended in orchard spray schedules except for oil on citrus and pears. (See Application Notes).

Amount and How to Use: PLICTRAN 50W miticide mixes readily with water to form a suspension that can be applied using ground spray equipment. PLICTRAN 50W contains a wetting agent. Additional wetting agent is not recommended. Either dilute or concentrate sprays can be used. Follow the dosage recommendations in the Table. Thorough and complete coverage of foliage and fruit is essential for good mite control.

When to Apply: Apply when mites appear. Repeat as necessary to prevent build-up of mites to damaging numbers. If all life stages of mites are present at the time of treatment, another application should be considered in 10 to 14 days. Observe the limitations indicated in the application notes for specific crops.

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Crop	Mites Controlled	For Concentrate Sprays PLICTRAN 50W per acre	For Dilute Sprays		Application Notes
			PLICTRAN 50W per 100 gallons water	Spray mixture per acre	
Apples	European red Two-spotted spider Schoone spider Pacific spider Yellow spider Apple rust McDaniel	1 to 3 lb	4 to 6 oz	300 to 800 gallons	1, 2, 3
Pears	European red Two-spotted spider Schoone spider Pacific spider Yellow spider Apple rust Pear rust	1 to 2.5 lb	4 to 6 oz	300 to 800 gallons	1, 2, 3, 4
Citrus	Citrus red Texas citrus Citrus rust Pacific spider	2 to 4 lb	4 to 6 oz	800 to 1600 gallons	3, 4, 7, 8
Ornamentals	Two-spotted spider		4 to 6 oz	Spray to wet	9, 10
Peaches Plums (prunes) Nectarines	European red Two-spotted spider Peach silver McDaniel Pacific		4 to 6 oz	300-800 gallons	11, 14
Almonds / Walnuts	Pacific European red Two-spotted spider		4 to 6 oz	500-800 gallons	11, 14
Strawberries	Two-spotted spider		12 to 16 oz	100-250 gallons	12, 13, 15

Application Notes:

1. Frequently, the first application of PLICTRAN 50W will be needed at or soon after petal fall.
2. Do not apply within 14 days of harvest.
3. Do not apply a total of more than 12 lbs of PLICTRAN 50W per acre per season on apples nor more than 10 lbs per acre per season on pears.
4. Fruit surface injury has occurred on pears when sprays of oil and PLICTRAN 50W were applied as a tank mix or separately within 28 days of each other.
5. Citrus includes grapefruit, lemon, lime, orange and tangerine trees.
6. Do not tank mix PLICTRAN 50W with oil in citrus sprays. Also, application of oil should not be made within four weeks before or after application of PLICTRAN 50W in Florida. In other states, application of oil should not be made within eight weeks before or after application of PLICTRAN 50W.
7. Do not apply to lemon trees when yellow fruit is present.
8. If possible, time applications on citrus to avoid new flush or "feather" growth, especially with concentrate sprays, since temporary foliage injury may occur on such growth.
9. Includes greenhouse grown carnations, chrysanthemums, poinsettias, and roses.
10. Occasional injury to chrysanthemum blossoms and poinsettia bracts has occurred. Therefore, it is desirable that applications be made only to the foliage of these plants (prebloom or prebract).
11. Do not apply more than 9 lb/acre per season. Limit applications to 3 per season at other than the 4 oz/100 gallon dosage. At the 4 oz/100 gallon dosage limit applications to 4 per season.
12. Use the higher rates in plantings with dense foliage or to prolong the time between applications. Insure thorough coverage of foliage. In California and Florida, it will sometimes be desirable to treat at 1 to 2 week intervals during the periods of intense mite pressure.
13. Do not harvest treated berries on the same day that PLICTRAN is sprayed.
14. Do not tank mix with spray oils. Varying degrees of foliage injury may be experienced if Plictran 50W and spray oils are applied within 4 weeks of each other.
15. Apply a minimum of 24 oz. PLICTRAN 50W per acre per application.

KEEHANE EG

ROHM HAAS
CAT 3 809
CD50

**AGRICULTURAL MITICIDE
EMULSIFIABLE LIQUID**

CAUTION KEEP OUT OF REACH OF CHILDREN.

Avoid skin contact. Wash thoroughly after using. Avoid inhalation of mist. Harmful if swallowed.
If taken internally, get medical attention. Do not store near feed or foodstuffs.

This product is toxic to fish. Keep out of any body of water.

DO NOT USE, POUR, SPILL, OR STORE NEAR HEAT OR OPEN FLAME. Do not reuse empty drums.
Return to drum reconditioner or destroy by perforating or crushing and burying in a safe place.

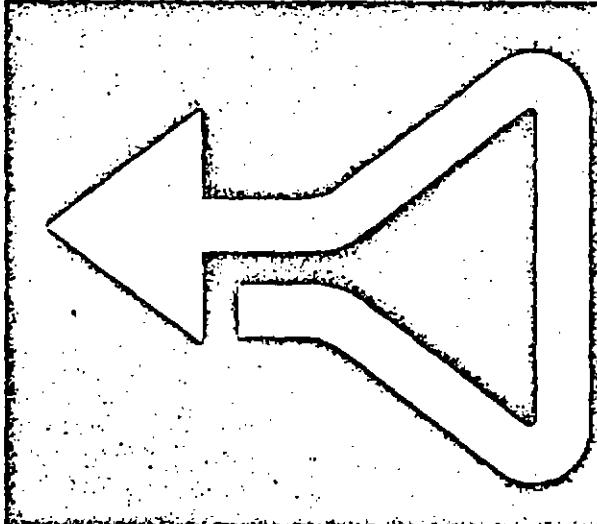
NET CONTENTS

5 GALLONS

ACTIVE INGREDIENT

1,1-Bis(chlorophenyl)-	18.5%
2,2,2-Trichloroethanol	73.0%
Xylene	8.5%
INERT INGREDIENTS	100%
Total	100%

*Equivalent to 1.6 lbs Active Ingredient Per Gallon
EPA Reg. No. 707-53 AA
U.S. Patent Numbers 2,812,362 and 2,812,380



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**ROHM
HAAS**

PHILADELPHIA, PA. 19105

DIRECTIONS FOR USE

GENERAL

KELTHANE EC gives high initial kill against most species of agricultural mites including the following:

apple rust	dryberry	spruce
Bermuda	European red	strawberry (Atlantic)
Carmine	McDaniel	Texas citrus
citrus flat	Pacific	tropical russet
citrus red (purple)	peach silver	tropical
citrus rust	plum nursery	two-spotted (red spider)
clover (brown almond)	privet	Willamette
desert	Scotchmen	yellow (saproni)
	six-spotted	Yuma

KELTHANE is a specific miticide and will not kill bees and beneficial insect predators when used as directed.

KELTHANE EC can be applied alone or with other pesticides in recommended spray schedules. It should not be used with lime or with materials not compatible with solvent based pesticides formulations. For further details see specific recommendations on this label; then consult current State Agricultural Experiment Station spray schedules or State Extension Service Specialists for additional details on compatibility, dosage, timing, and uses.

KELTHANE EC is mixed with water and may be applied with conventional duster or concentrate ground sprayers or with aircraft. Follow the dosage rates per acre listed below regardless of the gallonage of the spray applied. The higher dosages suggested are for larger trees or plants or heavier mite populations. Uniform coverage is necessary but the optimum spray gallonage varies with the type of equipment, size and density of the crop plants. Use in 5 to 10 gallons of spray per acre in aircraft.

To avoid excessive residue at harvest do not exceed the maximum dosage per acre, or the time restriction between test application and harvest for each crop group listed in the table below.

SUMMARY OF KELTHANE EC DOSEAGE RATES IN QUARTS PER ACRE AND LIMITATIONS BETWEEN LAST APPLICATION AND HARVEST

CROP	Doseage KELTHANE EC Qts. Per Acre	Rate Qts. Per 100 Gall. Min.	Cutoff Days Before Harvest	Notes
All Alfalfa and Clover (both grown for seed only)—use restricted to California, Idaho, Nevada, Oregon, and Washington.	3	1 1/2	—	
Chesnut, Filberts, Hickory Nuts, Pecans, Walnuts	10	1	14	
Apples, Crabapples, Pears, Quince	10	1	7	
Apricots, Nectarines, Peaches	6	—	14	
Benz (dry)	2	—	45	
Benz (dry, green, lime) (California only)	1 1/2	—	7	
Blueberries (all)	2 1/2	—	21	For cyclamen mite apply 2 or 3 thorough, high pressure, drenching sprays (400 gallons per acre) at 10 to 20 day intervals when new growth starts in spring, or use as a spot treatment in infested areas during production season.
Cantaloupes, Cucumbers, Melons, Pumpkins, Squash, Watermelons	3	1	2	
Cherries	6	1	7	
Citrus (all)	10	1	14	
Cotton	4	—	7	
Figs, Plums, Prunes	5	—	7	
Grapes, Hops	5	—	7	
Mint	3	—	30	
Strawberries—Two-spotted and similar mites	1	2	2	
Tomatoes, Peppers	1	2	2	
Clover Mites in Buildings	1	2	2	
Lawn and Turf Grasses	1/2	—	—	
Full Coverage	1/2	—	—	
Full Coverage	1/2	—	—	

NOTE: To improve the spray coverage on difficult to wet crops such as almonds, apricots and peaches and to smooth out spray deposits on maturing apples, pears and other fruits add 1 to 2 ounces of TRITON® B-195® per 100 gallons of spray or equivalent in concentrate sprayers.

*Gallonage of spray will vary with size and number of trees or plants per acre and the density of the foliage. In any case, through coverage of all parts of the plant is essential for good mite control. Do not apply KELTHANE in any formulation on an eggplant or avocados. In General, KELTHANE applications should be made as the various mite species begin to appear in threatening numbers and repeated as necessary for adequate seasonal control, except as noted or recommended locally.

VEGETABLE AND FIELD CROPS

ALFALFA AND CLOVER (BOTH GROWN FOR SEED ONLY)—USE RESTRICTED TO CALIFORNIA, IDAHO, NEVADA, OREGON AND WASHINGTON—for carrots, Pacific, Raspberry (falline), and two-spotted mites. Use 1 1/2 to 3 1/2 quarts of Kelthane EC per acre in sufficient water for thorough

coverage. Apply when mites become active and repeat if necessary. Treated fields are not to be grazed, and crop residues and culturings are not to be fed to livestock or haled for such use. The fields must be cleared by burning crop residues or by discing into the soil.

BEANS, CANTALOUPES, CUCUMBERS, HOPS, MELONS, PEPPERS, PUMPKINS, SQUASH (winter and summer), TOMATOES, WATERMELONS)—Pacific, Tomato russet, Tropical and two-spotted white. Apply at first signs of mite buildup and repeat as necessary to not lead crop residues to dairy or meat animals. DO NOT USE ON EGGPLANTS.

COTTON—Desert, Pacific and two-spotted mites. Use 2 to 4 quarts KELTHANE EC per acre, depending on size of the plant and density of the foliage. Begin application when mites are first noticed and repeat if necessary. Do not feed cotton trash to meat or dairy animals.

MINT—Proprietary and spearmint for commercial oil production. For control of two-spotted mites use KELTHANE EC at 2 to 3 quarts per acre. Make application when mites become active. Do not apply within 30 days of harvest and do not make more than one application per crop per season. Do not feed treated fresh or spent hay to livestock.

FRUITS AND NUTS

APPLES, CRANAPPLES, PEARS, QUINCES—to clean up clover and European red mites and to control apple rust. McDaniel, Pacific, Schoene, two-spotted, Willamette and yellow (carpini) mites. Make application in second to later cover sprays or whenever mite population appears. In areas where the preventing schedule is accepted practice, use two successive applications at 1/2 quart per 100 gallons dilute spray applied at 10 to 14 day intervals. Make thorough full coverage application. Note: KELTHANE EC may cause fruit spots on pears under certain conditions and should be used at the lower dosages and with caution on this crop. To avoid possible injury do not use Elyodin fungicide with KELTHANE in later cover sprays.

APRICOTS, CHERRIES, FIGS, NECTARINES, PEACHES, PLUMS, PRUNES—Clover (Brown Almond), European red, McDaniel, Pacific, peach silver, plum nursery, Schenck, two-spotted, Willamette and yellow mites. Apply at petal fall to first cover or whenever mite population appears. If repeat application is necessary, wait 30 days to avoid residues.

BLACKBERRIES, BOYSENBERRIES, DEWBERRIES, LOGANBERRIES, OLALLIEBERRIES, RASPBERRIES—Brown almond (clover), European red, McDaniel, Pacific, two-spotted, Willamette and yellow or whenever mites appear and repeat if necessary.

CITRUS (Grapefruit, Kumquats, Lemons, Limes, Oranges, Tangos, Tangerines)—Citrus flat, citrus red (flavescens), citrus rust, six-spotted, Texas citrus and yuma mites. Follow local timing recommendations. DO NOT USE ON AVOCADOS.

GRAPEFRUIT, FILBERTS, HICKORY NUTS, PECANS, WALNUTS—Brown almond (clover), Brown (all), McDaniel, Pacific, two-spotted, Willamette, and yellow mites. Apply just after bloom or whenever mites appear and repeat if necessary.

STRAWBERRIES—Six-spotted, strawberry (Atlantic) and two-spotted mites. Apply when mites appear and repeat as necessary.

LAWN AND TURF GRASSES—Bermuda, brown and clover mites. Apply 2 1/2 to 1 quart KELTHANE EC per 100 gallons (2 tablespoons per gallon). Apply 2 1/2 gallon dilute spray per 1500 square feet. Make application when mites appear covering the entire lawn area with a thorough spray and repeat in 10 to 14 days if necessary.

OTHER USES

CLOVER MITES IN BUILDINGS—Use 3/4 to 1 quart KELTHANE EC per 100 gallons. Spray walls, foundations, windowsills, plants and lawns at base of infested buildings.

LAWN AND TURF GRASSES—Bermuda, brown and clover mites. Apply 2 1/2 to 1 quart KELTHANE EC per 100 gallons (2 tablespoons per gallon). Apply 2 1/2 gallon dilute spray per 1500 square feet. Make application when mites appear covering the entire lawn area with a thorough spray and repeat in 10 to 14 days if necessary.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label, when used in accordance with directions under normal conditions of use, but neither this warranty, nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use, storage or handling of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to Seller, and buyer assumes the risk of any such use. These risks include, but are not limited to damage to plants, crops and animals in which the material is applied, failure to control pests, damage caused by drift to other plants or crops, and personal injury.

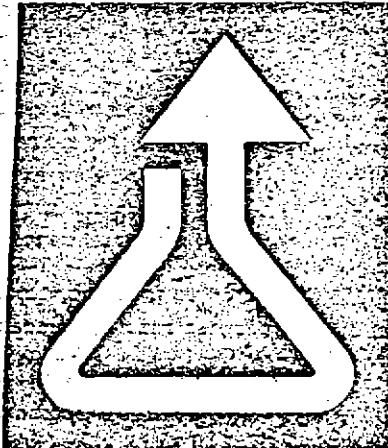
AA

KETHANE

35

Summary of
and Limitations

Answers to common questions
about KETHANE 35
including: What is it?
How does it work?
What are its uses?
How to mix and apply.
Adults, children,
pets, etc.
Bees and birds.
Safety and first aid.



**ROHM
HAAS**
PHILADELPHIA, PA 19105

AGRICULTURAL MITICIDE WETTABLE POWDER

CAUTION

KEEP OUT OF REACH OF CHILDREN

Avoid skin contact. Wash thoroughly after handling. Avoid inhalation of mist or dust. Harmful if swallowed. If taken internally, get medical attention. Do not store near feed and foodstuffs.

This product is toxic to fish. Keep out of any body of water. Use only as specified on this label.

Rinse equipment and dispose of waste and empty containers by burying in non-crop lands away from water supplies. Do not reuse containers.

ACTIVE INGREDIENT

1. 1-Bis(chlorophenyl)-	35%
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2,2,2-trichloroethanol	65%
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INERT INGREDIENTS.....	100%
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U.S. Patents 2,812,362; 2,812,280

EPA Reg. No. 707-89-AA

NET CONTENTS **4** LBS.

DIRECTIONS FOR USE

Kelthane gives high initial kill against most species of agricultural mites including European red, two-spotted (red spider), six-spotted, Pacific, privet, Schoene, yellow (carpini), McDaniel, Willamette, spruce, desert and tropical mites. Kelthane is a specific miticide and is harmless to predacious and other beneficial insects.

KELTHANE 35 miticide can be applied alone or it can be applied with various other pesticides in recommended spray schedules. For further details, see recommendations below and consult current State Agriculture Experiment Station spray schedules, or State Extension Service Specialists for additional details on compatibility, dosage, timing and uses. KELTHANE 35 is believed to be compatible with other insecticides and fungicides in common use.

For proper application, mix KELTHANE 35 with water and apply as a wet spray with suitable spray equipment. The following chart is offered as a guide in preparing dilute, high gallonage sprays. For concentrate ground sprayers, the amount of water used should be reduced in accordance with instructions from the sprayer manufacturer but the amount of KELTHANE 35 applied per acre should be the same whether dilute or concentrate sprays are used. For aerial sprays use 3 to 10 gallons of water per acre to provide thorough coverage of all plant parts.

To avoid excessive residues at harvest follow the use recommendations. Do not exceed the maximum dosage per acre per application, or the time restriction between last application and harvest for each crop listed in the table below:

**Summary of KELTHANE 35 Dosage per Acre
and Limitations Between Last Application & Harvest**

CROP	KELTHANE 35/Acre Each Application		Mixing Rate per 100 gal. Dilute Spray*	Days Before Harvest
	Small Plants	Large Plants		
Alfalfa and clover (both grown for seed only—use restricted to California, Idaho, Nevada, Oregon, and Washington).	1½	3	1-1½	—
Chestnuts, filberts, hickory nuts, pecans, walnuts	4	11	1-1½	14
Apples, crabapples, pears, quince	6	10-12	1-1½	7
Beans (dry)	1	2¼	1-1½	45
Beans (dry, green, lima)	1	1½	1	7
Beans (dry, green, lima) (California only)	1½	3	1-1½	21
Cantaloupe, cucumbers, melons, pumpkins, squash, watermelons	1	1½	1	2
Cherries	6	9	1-1½	7
Citrus (all)	7	22	1-1½	7
Grapes, Hops	1½	3½	1-1½	7
Peaches, apricots, nectarines	6	9	1-1½	14
Plums, prunes, figs	4	5½	1-1½	7
Raspberries, cane berries	1½	3½	1½	2
Strawberries (see use instructions)	1	6¾	1-1½	2
Tomatoes, peppers	1½	2¼	1-1½	2
Ornamentals, flowers, nursery stock, shade trees	—	—	1-1½	—
Buildings (see use directions)	—	—	1-1½	—
Clover mites in buildings	—	—	1-1½	—

* Adjust water gallonage if concentrate ground or aerial sprays are used. Amount of spray applied per acre must be adjusted to the size and number of trees or plants per acre and the foliage density. Do Not Apply Kelthane in any formulation on eggplant or avocados. These crops may be injured.

VEGETABLES AND FIELD CROPS

ALFALFA AND CLOVER (BOTH GROWN FOR SEED ONLY—USE RESTRICTED TO CALIFORNIA, IDAHO, NEVADA, OREGON, WASHINGTON)—For Carmine, Pacific, strawberry (Atlantic), and two-spotted mites. Use 1½ to 4 lbs. of Kelthane 35 per acre in sufficient water for thorough coverage. Apply when mites become active and repeat if necessary. Treated fields are not to be grazed, and crop residues and cuttings are not to be fed to livestock or baled for crop use. The fields must be cleared by burning crop residues or by discing into the soil.

BEANS, HOPS, CUCUMBERS, CANTALOUPE, MELONS, WATERMELONS, PUMPKINS, WINTER AND SUMMER SQUASH, TOMATOES, PEPPERS—For two-spotted, Pacific, tropical and tomato rust mite, apply at first signs of mite buildup and repeat as necessary for adequate control. Do not feed treated vines, forage or crop residues to meat or dairy animals.

FOR USE ON:

CLOVER MITES IN BUILDINGS—Use 1 to 1½ pound KELTHANE 35 per 100 gallons of water. Thoroughly spray outside walls, foundations and windowsills and plants and lawn at base of infested buildings.

LAWN AND ORNAMENTAL TURF GRASSES—Clover, brown and Bermuda grass mites. Use 1 to 1½ pounds KELTHANE 35 per 100 gallons. (1½ tablespoons per gallon). Apply at 2½ gallons per 1000 sq. ft. Make application when mites appear, covering the entire lawn area with a thorough spray and repeat in 10 to 14 days if necessary.

ORNAMENTALS, FLOWERS, NURSERY STOCK AND SHADE TREES—For control of mites on greenhouse or outdoor plants use 1 to 1½ pounds KELTHANE 35 per 100 gallons (1½ tablespoons per gallon of water). Apply when mites are present and repeat as necessary.

KELTHANE 35 may be used without any spreader-sticker, when necessary to improve the spray coverage on foliage difficult to wet and to smooth out spray deposits on maturing fruit. TRITON® B-1956® is recommended. Other suitable pesticide spreader-stickers may also be used, except in situations where TRITON B-1956 is recommended as the only acceptable spreader-sticker.

FRUITS AND NUTS

APPLES, PEARS, CRABAPPLES, QUINCES—To control two-spotted Schoene, McDaniel, yellow (carpini), Willamette, Pacific and apple rust mite and to clean up late spring European red mite and clover mite apply at petal fall to second cover or whenever mite population appears. Make thorough full coverage application. Repeat as necessary during the season for adequate control. To avoid possible injury do not use glyodin fungicide with Kelthane in late cover sprays.

GRAPES, WALNUTS, FILBERTS, PECANS, CHESTNUTS, HICKORY NUTS—For brown almond (clover), two-spotted European red, Pacific, McDaniel, Willamette and yellow mites, apply just after bloom or whenever mites appear and repeat if necessary.

ORANGES, GRAPEFRUIT, LEMONS, LIMES, TANGELOS, TANGERINES, KUMQUATS—For citrus red (purple), citrus flat, citrus rust, Texas citrus, six-spotted and Yuma mite follow State Agricultural Experiment Station or State Extension Specialist recommendations. Do not apply within seven days of harvest. Do not use on avocados.

PEACHES, APRICOTS, NECTARINES, CHERRIES, PLUMS, PRUNES, FIGS—For European red, brown almond (clover), two-spotted, Schoene, McDaniel, Pacific, Willamette, peach silver, plum nursery and yellow mites apply at petal to first cover or whenever mite population appears. If needed, a repeat application can be made after 30 days.

RASPBERRIES, DEWBERRIES, LOGANBERRIES, BOYSENBERRIES, BLACKBERRIES, CLALLIE BERRIES—Brown almond (clover), two-spotted, European red, Pacific, McDaniel, Willamette and yellow mites, apply when mites appear and repeat as necessary.

STRAWBERRIES—Two-spotted, strawberry (Atlantic), and six-spotted mite, use 1 to 3 lbs. KELTHANE 35 per acre. Apply when mites appear and repeat as necessary.

For Cyclamen mite use 4 to 6 lbs. KELTHANE 35 per acre. Apply 2 or 3 thorough high pressure, drenching sprays (400 gallons per acre) at 10 to 20 day intervals when new growth starts in spring, or use as a spot treatment in infested areas during production season.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use, storage or handling of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use. These risks include, but are not limited to damage to plants, crops and animals to which the material is applied, failure to control pests, damage caused by drift to other plants or crops, and personal injury.

KELTHANE® 4 DUST

DIRECTIONS FOR USE

Apply when mites first appear and repeat as necessary to maintain control. May be applied with ground or airplane application equipment. For aerial application, fly with the rows, do not fly greater than 32 foot swaths. Observe days interval between last application and harvest indicated by the number in () following the crop.

APPLES (7), CRABAPPLES (7), PEARS (7), QUINCES (7): To clean up European Red Mite and Clover Mite and to control Two-spotted, Schoene, McDaniel, Yellow (tarpinii), Willamette, Pacific and Apple Rust Mites — Use 40-100 pounds per acre.

APRICOTS (14), CHERRIES (7), PEACHES (14), NECTARINES (14): European Red Mite, Clover (Brown Almond), Two-Spotted, Schoene, McDaniel, Pacific, Willamette, Peach Silver, Plum Nursery and Yellow Mites — Use 40-80 pounds per acre. On cherries do not repeat application within 30 days.

BEANS (7), HOPS (7): Two-Spotted and Pacific Mite — Use 30-35 pounds per acre. Do not feed treated bean vines and hop bines to meat or dairy animals.

BLACKBERRIES (2), BOYSENBERRIES (2), DEWBERRIES (2), LOGAN-BERRIES (2), RASPBERRIES (2): Two-Spotted Mite, Pacific Mite, Willow-mite Mite — Use 30 pounds per acre.

CHESTNUTS (14), FILBERTS (14), HICKORY NUTS (14), PECANS (14), WALNUTS (14): Brown Almond (clover) Mite, Two-Spotted Mite, European Red Mite — Use 40-100 pounds per acre.

CITRUS (Orange, Grapefruit, Lemons, Limes, Tangeloes, Tangerines, Kumquats) (7): Citrus Red, Citrus Flat, Citrus Rust, Six-Spotted, and Yuma Mites — Use 50-100 pounds per acre.

COTTON (14): Two-Spotted Mite, Pacific Mite, Atlantic Mite, Desert Mite — Use 30-40 pounds per acre. Do not graze treated fields by meat or dairy animals.

CUCUMBERS (2), MELONS (2), PEPPERS (2), PUMPKINS (2), SQUASH (2), TOMATO (2): Two-Spotted Mite, Pacific Mite, Tropical Mite, Tomato Russet Mite — Use 30-35 pounds per acre.

CAUTION KEEP OUT OF REACH OF CHILDREN

FIGS (7), PLUMS (7), PRUNES (7): European Red Mite, Clover (Brown Almond) Mite, Two-Spotted Mite, McDaniel Mite, Pacific Mite, Willamette Mite, Peach Silver Mite, Rust Mite, Plum Nursery Mite, Yellow Mite — Use 40-50 pounds per acre. Do not reapply within 30 days.

GRAPES (7): Two-Spotted Mite, Pacific Mite, Willamette Mite — Use 30-35 pounds per acre. Ground application equipment preferred.

ORNAMENTALS, FLOWERS, NURSERY STOCK AND SHADE TREES: To control Mites on greenhouse or outdoor plants. Dust plants for thorough coverage.

STRAWBERRIES (2): Two-Spotted Mite, Strawberry (Atlantic) Mite, Six-Spotted Mite — Use 30-60 pounds per acre.

USAGE CAUTIONS

This product is toxic to fish. Keep out of lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on the label.

Do not apply when weather conditions favor drift from the area treated. Do not apply when runoff is likely to occur.

DISPOSE OF WASTES: By burying in non-crop land away from water supplies. Empty bags should be buried with wastes or burned. Keep Out of Smoke.

KELTHANE® 4 DUST**DIRECTIONS FOR USE**

Apply when Miles first appear and repeat as necessary to maintain control. May be applied with ground or airplane application equipment. For aerial application, fly with the rows, do not fly greater than 32 foot swaths. Observe days interval between last application and harvest indicated by the number in () following the crop.

BRAINS (21-California, 7-other States): Pacific Spider and Twospotted Spider Miles — Use 30 to 35 pounds per acre. Do not feed treated vines to dairy or meat animals.

COTTON (14): Twospotted Spider, Pacific Spider, Strawberry Spider, Desert Spider Miles — Use 30 to 40 pounds per acre. Do not graze treated fields by meat or dairy animals.

CUCUMBERS (2), **MELONS** (2), **PEPPERS** (2), **PUMPKINS** (2), **SQUASH** (2), **TOMATOES** (2): Twospotted Spider, Pacific Spider, Tropical Spider Miles (Peppers and Tomatoes only). Tomato, Russell Miles (Tomatoes only) — Use 30 to 35 pounds per acre.

HOPS (7): Twospotted Spider and Pacific Spider Miles — Use 30 to 35 pounds per acre. Do not feed treated hop bines to meat or dairy animals.

ORNAMENTALS; (flowers, nursery stock and shade trees): To control Miles on greenhouse or outdoor plants. Dust plants for thorough coverage.

APPLES (7), **CRABAPPLES** (7), **PEARS** (7), **QUINCES** (7): Twospotted Spider, Schoene Spider, Yellow Spider, Williamette, Pacific Spider and Apple Rust Miles and to clean up late spring populations of European Red and Brown Miles — Use 40 to 100 pounds per acre. Allow 30 days between treatments. Fruit spotting may occur on Pears.

APRICOTS (14), **CHERRIES** (7): McDaniel Spider and Yellow Spider Miles (Cherries only). Brown, European Red, Pacific Spider, Peach, Silver, Plum Rust, Twospotted Spider Miles — Use 40 to 80 pounds per acre. Do not repeat application within 30 days.

BLACKBERRIES (2), **BOYSENBERRIES** (2), **DEWBERRIES** (2), **LAWN-BERRIES** (2), **RASPBERRIES** (2): Twospotted Spider, Pacific Spider, Williamette Miles — Use 30 pounds per acre.

MITICIDE

EPA REGISTRATION NC. 279-2882 AA

ACTIVE INGREDIENT:

*1,1-Bis (p-chlorophenyl)-2,2,2-Trichloroethanol... 4.00%
INERT INGREDIENTS: 96.00%

100.00%

©Trademark Rohm & Haas Co.

CAUTION**KEEP OUT OF REACH OF CHILDREN**

Avoid breathing dust. Avoid storage near feed and food products. Wash thoroughly after handling. Keep away from domestic animals, feed and foodstuffs.

For Emergency Assistance Call

716-735-3765

ENVIRONMENTAL AND DISPOSAL CAUTIONS

This product is toxic to fish. Keep out of lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not apply when weather conditions favor drift from the areas treated. Do not apply when run-off is likely to occur. Apply this product only as specified on the label.

DISPOSE OF WASTES by burying in non-crop land away from water supplies. Empty bags should be buried with wastes or burned. **Keep Out of Smoke.**

~~\$8~~ Code: 406

FMC - NIAGARA

406

65-~~c~~g Net Weight
50 Pounds

ETHION 8 GRANULAR

DIRECTIONS FOR USE

ONIONS (Dry and Green) and GARLIC: Onion Maggot — Apply as
a furrow treatment at the time of planting.

Soil Type:	Pounds Granules per acre applied on: 15" row	24" row	36" row
Mineral	25	15	10

BEANS: Seed Corn Maggot — Use 20 pounds uniformly mixed with sufficient seed to plant one acre. Do not use treated seed for food, feed or all purposes.

INSECTICIDE

E.P.A. REGISTRATION NO. 279-1323 AA

ACTIVE INGREDIENT:

Ethion; 0,0'-O'-Tetraethyl 5,S'-methylene bisphosphorodithioate

INERT INGREDIENT:	92.00%
	100.00%

U.S. Patent No. 2,873,228.

ENVIRONMENTAL AND DISPOSAL CAUTIONS

This product is toxic to fish and wildlife. Keep out of lakes, ponds and streams. Apply this product only as specified on the label. Wildlife on treated areas may be harmed.

DISPOSE OF WASTES by burying in non-crop lands away from water supplies. Containers should be buried with wastes or burned. Keep Out of Smoke.

WARNING

KEEP OUT OF REACH OF CHILDREN

Harmful if swallowed. May be absorbed through skin.
Do not breathe dust. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Avoid contamination of or storage near feed and foodstuffs.

For Emergency Assistance Call

716-735-1765

Made in U.S.A.

614W

112

ETHION 25 SPRAY

FMC - NIAGARA
50 Pounds Net Weight

DIRECTIONS FOR USE

Apply when insects first appear and repeat as required to maintain control. Use the following recommended rates in sufficient water to thoroughly cover one acre. Observe use limitations. If insect control is required beyond the following use patterns, supplement the control program with other suitable pesticides. Observe days interval between last application and harvest indicated by number in () following crop.

ALMONDS (30): Brown Almond Mite, European Red Mite, Two-Spotted Spider Mite — 1 pound per 100 gallons of water, 5 to 8 pounds per acre. Do not make more than one application during fruiting period.

APPLE (60): Codling Moth — Two pounds per 100 gallons of water, 16 to 20 pounds per acre. Four applications during fruiting period.

APPLE (40): Codling Moth — Two pounds per 100 gallons of water, 16-20 pounds per acre. Two applications during fruiting period.

APPLE (40): Brown Almond Mite, Apple Rust Mite, Two-Spotted Mite — One pound per 100 gallons of water, 8 to 10 pounds per acre. Four applications during fruiting period.

APPLE (30): Brown Almond Mite, European Red Mite, Apple Rust Mite, Two-Spotted Mite — One pound per 100 gallons of water, 8 to 10 pounds per acre. Three applications during fruiting period.

APPLE (20): Brown Almond Mite, European Red Mite, Apple Rust Mite, Two-Spotted Mite — One pound per 100 gallons of water, 8 to 10 pounds per acre. Two applications during fruiting period.

CAUTION: Do not use on Autumn, Duchess, Margaret Parris, Malba, Wealthy, Williams Red (Red Williams), Yellow Transparent, or any varieties maturing before early October except as injury is likely to occur.

GRAPE (30): Grape Leafhopper, Two-Spotted Mite, Willamette Mite — One pound per 100 gallons of water, 3 to 5 pounds per acre. Two applications during the fruiting period. Do not apply to Sevander, Muscat and Feh-Sango varieties as injury may occur.

NECTARINES (30), PEACHES (30), CLOVER (Brown Almond) Mite, European Red Mite, Two-Spotted Spider Mite — 1 pound per 100 gallons of water, 5 to 7 pounds per acre. Do not apply more than twice during fruiting period.

NECTARINES (30), PEACHES (30), CLOVER (Brown Almond) Mite, European Red Mite, Two-Spotted Spider Mite, Olive, Parthenia Scale — 1 pound plus 1 gallon summer oil per 100 gallons water, or 4 to 6 pounds plus 4 to 6 gallons summer oil per acre. Do not apply more than twice during fruiting period. Omit oil when spraying for mites only after start of petal fall.

PEAR (60): Codling Moth — Two pounds per 100 gallons of water, 10 to 15 pounds per acre. Pear Psylla — 1½ to 2 lbs. per 100 gallons of water, 8 to 10 lbs. per acre. Do not make more than three applications after the first cover spray.

PEAR: European Red Mite, Two-Spotted Mite, Brown Almond Mite — One pound per 100 gallons of water, 5 to 7 pounds per acre. Pear Rust Mite one pound per 100 gallons of water, 8 to 10 pounds per acre. Do not make more than three applications after the first cover spray nor apply within 30 days of harvest. Or do not make more than two applications after the first cover spray nor apply within 20 days of harvest.

INSECTICIDE/NUCIDIKE

EPA. REGISTRATION NO. 279-1401 AA

ACTIVE INGREDIENTS:	BY WT.
Ethion (0, 0', 0"-Trithiophyl S, S-methylene bisphosphonodithioate)	25.00%
INERT INGREDIENTS:	75.00%
	100.00%

U.S. Patent No. 2,673,228

WARNING

KEEP OUT OF REACH OF CHILDREN

May be fatal if swallowed. Absorbed through skin. Do not breathe vapor, dust or spray mist. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Avoid storage near food and feed products. Avoid contamination of feed and food stuffs.

This product is toxic to bees, fish and wildlife. Keep out of lakes, ponds and streams. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not apply when bees are actively visiting the area. Apply this product only as specified on the label.

When used in combination with oil, observe the cautions on the oil label. Do not apply when weather conditions favor drift from the areas treated. Do not apply when runoff is likely to occur.

Rinse equipment and DISPOSE OF WASTES by burying at least 18 inches deep in non-crop lands away from water supplies. Container should be disposed of by burying with wastes or by burning. Keep out of smoke.

Apply this product only as specified on the oil label.

Do not apply when weather conditions favor drift from the areas treated. Do not apply when runoff is likely to occur.

Rinse equipment and DISPOSE OF WASTES by burying at least 18 inches deep in non-crop lands away from water supplies. Container should be disposed of by burying with wastes or by burning. Keep out of smoke.

Apply this product only as specified on the oil label.

Do not apply when weather conditions favor drift from the areas treated.

Do not apply when runoff is likely to occur.

Rinse equipment and DISPOSE OF WASTES by burying at least 18 inches deep in non-crop lands away from water supplies. Container should be disposed of by burying with wastes or by burning. Keep out of smoke.

Apply this product only as specified on the oil label.

Do not apply when weather conditions favor drift from the areas treated.

Do not apply when runoff is likely to occur.

Rinse equipment and DISPOSE OF WASTES by burying at least 18 inches deep in non-crop lands away from water supplies. Container should be disposed of by burying with wastes or by burning. Keep out of smoke.

Apply this product only as specified on the oil label.

Do not apply when weather conditions favor drift from the areas treated.

Do not apply when runoff is likely to occur.

Rinse equipment and DISPOSE OF WASTES by burying at least 18 inches deep in non-crop lands away from water supplies. Container should be disposed of by burying with wastes or by burning. Keep out of smoke.

PLUM AND PRUNE (21): Brown Almond Mite, European Red Mite, Two-Spotted Mite — One pound per 100 gallons of water, 5 to 7 pounds per acre. Three applications during fruiting period.
PLUM AND PRUNES (45): European Fruit Lecanium Scale — 1½ pounds per 100 gallons of water, 7 to 10 pounds per acre. Two applications during fruiting period.
GRAPEFRUIT (10); LEMONS (11); LIMES (11); ORANGES (10); TANGERINES (10): TANGERINES (Oranges, California Red Scale, Citrus Red Scale, Citrus Black Scale, Citrus Soft Scale, California Red Scale, Citrus Scale, Purple Scale, Yellow Scale, Citrus Whitley, Citrus Whitley — Use 1 to 1½ pounds per 100 gallons of water. For Mites, Scale, and Citrus Whitley — Use 1 to 1½ pounds per 100 gallons of water combined with 1 to 2 gallons summer oil. West Coast, for Whitley — Apply shortly after Whitley have laid their eggs.
CALIFORNIA AND ARIZONA ONLY: Citrus Thrip — 10 to 12 lbs. per acre. Apply when thrips first appear and before they exceed 2 to 3 times per leaf. Yuma Spider Mite — 1½ lbs. per 100 gallons of water. Use 12 lbs. per acre. May add up to 5 gal. light medium spray oil per acre. Do not apply more than 2,000 gallons spray per acre. Do not apply within 90 days of previous application. On limes, do not apply more than twice per crop. Do not apply oil within 3 weeks of a sulfur application. Do not use oil on blueberry.
BEANS (SUCULENT AND DRY) (4): Lygus Bug — Four pounds per acre. Do not feed treated bean foliage to livestock. (2): Potato Leafhopper — 2 lbs. per acre. Bean Beetle, Mexican Bean Beetle, Two-Spotted Spider Mite — 1 to 2 lbs. per acre. Feed treated foliage to livestock.
EGGPLANT (10): Two-Spotted Mite — Two pounds per acre.
MELONS (10): Melon Leaf Miner, Serpentine Leaf Miner, Two-Spotted Spider Mite — Two pounds per acre. Melon Leaf Miner, Serpentine Leaf Miner — 3 to 4 pounds per acre.
ONION, SET, ONION MAGGOT — SEED TREATMENT: Treat seed according to the number of feet of row planted per acre. On upland soil mix 4 pounds with the amount of seed to be planted in 1 acre of rows 12 inches apart, and 2 pounds with the amount of seed to be planted in 1 acre of rows 18 inches apart. Mix 3 pounds with the amount of seed to be planted in 1 acre of rows 24 inches apart. On much or heavy-type soil increase dosage by 50 percent.
PEPPER (10), PIMENTO (10): Serpentine Leaf Miner, Two-Spotted Mite — Two pounds per acre.
ORNAMENTALS (Out-of-district): Two-Spotted Mite — 1 pound per 100 gallons. Do not apply to Anderson Yew.
STRAWBERRY, LEAF ROLLER — FOUR POUNDS PER ACRE. Two-Spotted Spider Mite — Two pounds per acre.
CUCUMBERS (10); SUMMER SQUASH (10); SUMMER SQUASH (10): Serpentine Leaf Miner, Two-Spotted Mite — 2 pounds per cwt.
TOMATOES (2): Tropical Mite, Two-Spotted Spider Mite, Leaf Miner — Two pounds per acre.

For Emergency Assistance Call

716-735-3765

93W

Printed in U.S.A.

Code: 1322

ETHION 4 DUST

DIRECTIONS FOR USE

Apply when insects first appear and repeat as required to maintain effective control. Coverage of both upper and lower leaf surfaces is essential for good control. Observe use limitations. If insect control is required beyond the following use patterns, supplement the control program with other suitable pesticides. Observe day interval between last application and harvest indicated by the number in () following the crop. May be applied by ground or air.

ALMONDS (10): Brown Mite, Twospotted Spider Mite — Use 35 to 50 pounds per acre. During the fruiting period, do not make more than one application.

APPLES: Brown Mite, European Red Mite, Twospotted Spider Mite — Use 40 to 60 pounds per acre. Make no more than 4 applications during the fruiting period nor apply within 40 days of harvest; or make no more than 3 applications during the fruiting period nor apply within 30 days of harvest; or make no more than 2 applications during the fruiting period nor apply within 20 days of harvest.

BEANS (SUCCESTANT AND DRY) (2): Bean Leaf Beetle, Mexican Bean Beetle, Twospotted Spider Mite — Use 15 to 20 pounds per acre. (4): Lygus Bug — Use 30 to 40 pounds per acre. Do not feed treated bean foliage to livestock.

CITRUS (ORANGES, GRAPEFRUIT, LEMONS, LIMES, TANGERINES, TANGERINES): Citrus Red Mite, Texas Citrus Whitefly, Citrus Rust Mite — Use 50 to 100 pounds per acre. On grapefruit, Thrips (California and Arizona only) Use 35 to 100 pounds per acre. On grapefruit, oranges, tangerines and tangerines, if additional applications are required, do not apply within 90 days of the preceding treatment. The last application may be applied up to the day of harvest. On tangerines, do not exceed 2 applications per season. On lemons and limes do not apply more than once per season nor within 21 days of harvest.

GRAPES: Grape Leafhopper, Twospotted Spider Mite, Williamette Mite — Use 20 to 30 pounds per acre. Make no more than 2 applications nor apply within 15 days of harvest or make no more than 3 applications nor apply within 30 days of harvest. Do not apply to Salvador, Muscat or Fair-Strain varieties of grapes. Ground application equipment preferred.

MELON (10): Melon Leafhopper, Melon Leafminers, Serpentine Leafminers, Twospotted Spider Mite — Use 30 to 40 pounds per acre.

PEACHES (10): European Red Mite, Twospotted Spider Mite — Brown Mite — Use 40 to 50 pounds per acre. Do not apply more than 2 applications during the fruiting period.

PEPPERS (3): Serpentine Leafminers, Twospotted Spider Mite — Use 25 pounds per acre. Do not exceed 3 applications during the fruiting period.

PLUMS, PRUNERS: Brown Mite, European Red Mite, Twospotted Spider Mite — Use 40 to 43 pounds per acre. Do not make more than 3 applications during the fruiting period. Do not apply within 21 days of harvest. Can also be applied at the rate of 45 to 60 pounds per acre. Apply when mites first appear and repeat as required. Do not make more than 2 applications during the fruiting period. Do not apply within 45 days of harvest.

STRAWBERRIES (7): Twospotted Spider Mite — Use 20 to 30 pounds per acre. Do not apply more than 3 applications nor apply within 30 days of harvest. Tomato EF (10): Tropical Spider Mite, Twospotted Spider Mite, Leafminers — Use 20 pounds per acre.

INSECTICIDE-MITICIDE

EPA REGISTRATION NO. 279-1235 AA

ACTIVE INGREDIENT:

Ethion 0.05% Tetraethyl S,S'-methylene

Bisphosphorodithioate

INERT INGREDIENTS:

BY WT. 4.80%

..... 96.00%

..... 100.00%

U.S. Patent No. 2,875,228.

CAUTION

KEEP OUT OF REACH OF CHILDREN

Harmful if swallowed. May be absorbed through skin. Avoid breathing dust. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Avoid contamination of or storage near food and foodstuffs.

For Emergency Assistance Call

714-342-7145

ENVIRONMENTAL AND DISPOSAL CAUTIONS

This product is toxic to fish and wildlife. Keep out of lakes, ponds and streams. Shrimp and crab may be killed at application rates recommended on this label. Do not apply where there are important resources. Birds feeding on treated areas may be killed. Do not contaminate water by cleaning of equipment, or disposal of waste. Do not apply when weather conditions favor drift from the areas treated. Do not apply when runoff is likely to occur. Apply this product only as specified on the label.

This product is toxic to bees and should not be applied when bees are actively visiting the area.

DISPOSE OF WASTES by burying in non-crop land away from water supplies. Bags should be buried with wastes or burned. Keep Oil of Lemons.

BAE BT, 279-CA-3 Printed in U.S.A.

FMC - NIAGARA
L0500 65-209
50 Pounds Net Weight

ETHION 8 GRANULAR

DIRECTIONS FOR USE

ON ONIONS (Dry and Green) and GARLIC to control Onion Maggot —
Apply as a furrow treatment at the time of planting.

Soil Type:	Pounds Granules per acre applied on:	36" row	36" row
Mineral	25	15	10
ON BEANS to control Seed Corn Maggot — Use 20 pounds uniformly mixed with sufficient seed to plant one acre. Do not use treated seed for food, feed or oil purposes.			

INSECTICIDE

U.S.D.A. REGISTRATION NO. 279-1323 AA

ACTIVE INGREDIENT:

*Ethion

INERT INGREDIENT:

BY WT.
8.00%
92.00%
100.00%

DISPOSE OF WASTES by burying in non-crop lands away from water supplies. Containers should be buried with wastes or burned. Keep Out of Smoke.

WARNING

KEEP OUT OF REACH OF CHILDREN

Harmful if swallowed. May be absorbed through skin.
Do not breathe dust. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Avoid contamination of or storage near feed and foodstuffs.

USAGE CAUTIONS

This product is toxic to fish and wildlife. Keep out of lakes, ponds and streams. Apply this product only as specified on the label. Wildlife on treated areas may be harmed.

DISPOSE OF WASTES by burying in non-crop lands away from water supplies. Containers should be buried with wastes or burned. Keep Out of Smoke.

LD50 65-208

Cat 1
FMC

DIRECTIONS FOR USE

Apply the listed amount per acre when insects first appear and repeat as required to maintain effective control. Use in sufficient water for thorough coverage with dilute or concentrate sprayers, unless otherwise noted for listed crops. Coverage of upper and lower leaf surfaces is essential for good control. Observe use limitations, if insect control is required beyond the following use patterns, supplement the control program with other suitable pesticides. When applying this material by aircraft, mix the recommended amount with sufficient water to provide a minimum of 1-gallon finished spray per acre. Where more than 2 quarts are recommended mix with sufficient water to provide a minimum of finished spray equal to twice the amount of Ethion miscible used. Do not use in undiluted form. Observe days interval between last application and harvest indicated by the number in () following the crop.

ALMONDS (Dormant or Delayed Dormant): Brown Mite, European Red Nite — 6 fluid ounces plus 1 to 2 gallons dormant oil per 100 gallons water. Olive Scale — 8 fluid ounces plus 3 gallons dormant oil per 100 gallons water. San Jose Scale — 4 to 6 fluid ounces plus 2 gallons dormant oil per 100 gallons water. Apply during dormant or delayed dormant period. **FOLIAR:** Brown Mite, European Red Mite and Two-spotted Spider Mite — Use 1 1/2 to 2 1/2 pints per acre. By ground, apply a minimum of 200 gallons of water per acre; by air, a minimum of 15 gallons of water per acre. At 1 1/2 to 2 pints per acre, do not apply more than once during the fruiting period nor within 30 days of harvest. When 2 to 2 1/2 pints per acre are used, do not apply after husks split. Do not graze livestock in treated groves.

APPLES (Dormant or Delayed Dormant): Apple Aphid, European Red Mite, Rosy Apple Aphid, San Jose Scale — 4.8 fluid ounces plus 2 gallons dormant oil per 100 gallons water. (Superior type oil of 60 to 70 second viscosity preferred for delayed dormant use). **Summer:** Brown Mite, European Red Mite, Two-spotted Spider Mite — Use 1 1/2 pint per 100 gallons of water (maximum of 2 1/2 pints per acre). Apply during the fruiting period. If making no more than 4 applications, wait 40 days before harvest; if making no more than 3 applications wait 30 days before harvest; if making no more than 2 applications, wait 20 days before harvest. **Coddling Moth** — Use 1/2 pint per 100 gallons of water (maximum of 5 pints per acre). If making no more than 4 applications, wait 60 days before harvest; if making no more than 2 applications, wait 40 days before harvest. **Do not use ethion on Aitachen, Pratt, Meiba, N. J. No. 3 (Brite Mac), Wealthy, Williams Red (Red Williams), Yellow Transparent or any variety maturing with or before Early McIntosh as injury is likely to occur.**

CHERRIES: Black Cherry Aphid, San Jose Scale — 4 to 6 fluid ounces plus 2 gallons dormant oil per 100 gallons water. Apply during dormant or delayed dormant period. **CHESTNUTS:** Aphids, Mites — Use 2 1/2 pints per acre. Do not apply more than twice during the fruiting period. Do not apply after husk split. Do not graze livestock in treated groves.

FILBERTS: Aphids, Mites, 1 1/2 quarts per acre. Do not apply more than twice during fruiting period. Do not apply when nut is visible. Do not graze livestock in treated groves. **GRAPEFRUIT (0), LEMONS (21), LIMES (21), ORANGES (0), TANGERINES (0):** Citrus Red Mite, Citrus Rust Mite, Six-spotted Mite, Scales (Black, Brown Soft, California Red, Purple, Yellow Chaff, Glover), and Citrus Whitefly. For Mites use 4 to 6 pints per acre. For Mites, Scales and Citrus Whitefly use 4 to 6 fluid ounces per 100 gallons of water combined with 1 to 2 gallons summer oil (West Coast). For Whitefly, apply shortly after eggs have been laid. Do not apply more than 2000 gallons spray per acre. With concentrate sprayers apply in 50 to 100 gallons of spray per acre. **Citrus Thrips California and Arizona only** — Use 2 1/2 to 3 pints per acre. Apply when Thrips first

MANUFACTURED IN U.S.A. BY
FMC CORPORATION

AGRICULTURAL CHEMICAL DIVISION
MIDDLEPORT, N.Y. YAKIMA, WA.
FRESNO, CA. RICHMOND, CA.

CODE
31217

NET CONTENTS
GALLONS

ETHION 8 EC

INSECTICIDE-MITICIDE

EPA REGISTRATION NO. 279-2820-PA-2A

ACTIVE INGREDIENTS:	BY WT.
Ethion: 0.0070-Tetraethyl S,S-methylene bisphosphorodithioate	81.90%
Inert Ingredients:	18.10%
	100.00%

Contains 8 pounds Ethion per gallon.

U.S. Patent No. 2,873,228

KEEP OUT OF REACH OF CHILDREN

DANGER: Poisonous. If Swallowed, Inhaled or Absorbed Through Skin Do not breathe vapor or spray mist. Do not get in eyes, on skin or on clothing. In case of contact wash immediately with water; for eyes flush with plenty of water and get medical attention. Wear a mask or respirator of a type approved by the U.S. Bureau of Mines for Elition protection. Do not store near food or feed products. Wash hands, arms and face thoroughly with soap and water before eating or smoking. Wash all contaminated clothing with soap and hot water before reuse.

FIRST AID
Call a Physician Immediately! If Swallowed: Give a tablespoon of table salt in a glass of warm water. Repeat until vomiting occurs and vomitus is clear. Never induce vomiting in an unconscious person. If breathing has stopped — start artificial respiration immediately and maintain until a doctor sees victim.

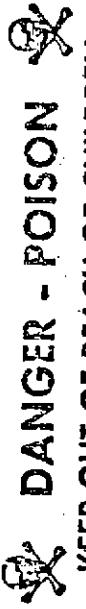
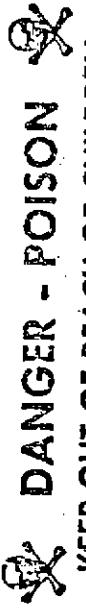
If In Eye: Flush eye for 15 minutes with plenty of water.
If On Skin or Clothing: In case of contact immediately flush skin or eyes with water for at least 15 minutes while removing contaminated clothing and shoes.

ANTIDOTE
Note to Physician: Active ingredient is a cholinesterase Inhibitor. Patient should be kept under observation for 48 hours. Atropine is antidotal. Give 4 mg. atropine sulfate intramuscularly or intravenously. Repeat every 15 minutes until patient is fully atropinized. Do not give morphine. Do not apply where run-off is likely to occur. Apply this product only as specified on the label.

This product is toxic to fish. Keep out of lakes, ponds and streams. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not apply when weather conditions favor drift from the areas treated. Do not apply where run-off is likely to occur. Apply this product only as specified on the label.

This product is toxic to bees and should not be applied when bees are actively visiting the area.

Do not re-use empty 2 and 5 gallon containers. Destroy them by perforating or crushing. Return drum to reconditioner or destroy it by perforating or crushing. Bury or discard in a safe place away from water supplies.



117

Code: 30236

MALATHION 4 DUST

50 Pounds Net Weight
CO₅₀ or 1375
Item #100

DIRECTIONS FOR USE

Make thorough, full coverage application when insects first appear and repeat as necessary. May be applied with ground or airplane application equipment. Observe day interval between last application and harvest indicated by number in () following the crop.

ALFALFA (0): Aphid, Leafhopper, Splitbug, Alfalfa Weevil Larvae, Armyworm — Use 35 pounds per acre. Apply to alfalfa in bloom only in the evening or early morning when bees are not working in the field or are not hanging on outside of vines.

BEANS (1): Mexican Bean Beetle, Leafhoppers, Aphids, Cucumber Beetles — Use 30-40 pounds per acre.

BLACKBERRIES (1), BOYSENBERRIES (1), DEWBERRIES (1), HASK-BERRIES (1): Aphids, Rose Scale — Use 40-70 pounds per acre.

BROCCOLI (3): Aphids, Imported Cabbageworm, Cabbage Looper — Use 30-60 pounds per acre.

CAULIFLOWERS (1): Aphids, Cabbage Looper, Imported Cabbageworm — Use 30-60 pounds per acre.

CABBAGE (1), KALE (1), TURNIP (3): Aphids, Imported Cabbageworm, Cabbage Looper — Use 30-60 pounds per acre.

CARROTS (7): Aphids, Leafhoppers — Use 40-50 pounds per acre.

CAULIFLOWER (0): Aphids — Use 50-60 pounds per acre. Cabbage Looper, Imported Cabbageworm — Use 30-40 pounds per acre.

CLOVER (0): Aphids — Use 25-35 pounds per acre. Do not apply to clover in bloom. COLLARDS (1): Aphids, Cabbage Looper, Imported Cabbageworm — Use 30-40 pounds per acre.

COTTON (0): Cotton Aphid, Leafhoppers, Whitley, Cotton Leafworm, Cotton Leafworm — Use 250 pounds per acre.

CUCUMBERS (1): Aphids — Use 30-55 pounds per acre. Cucumber Beetle — Use 45-55 pounds per acre. Do not apply unless plants are dry.

GRAPE (3): Leafhopper, Dracophila — Use 25-40 pounds per acre. Emulsion may cause injury to foliage on some varieties.

LETTUCE (Head 7): Leaf 14: Aphids, Leafhoppers, Cabbage Looper — Use 20-40 pounds per acre.

MELONS (1): Leafhoppers, Aphids, Cucumber Beetles — Use 30-45 pounds per acre. Do not apply unless plants are dry.

MUSTARD GREENS (0): Aphids, Imported Cabbageworm, Cabbage Looper, Flea Beetles — Use 30-40 pounds per acre.

022W

INSECTICIDE

EPA REGISTRATION NO. 279-765 AA

ACTIVE INGREDIENT:

Malathion

INERT INGREDIENTS:

10.0-dimethyl diisophosphate of Diethyl Mercurioacetate

ONIONS: Thrips — Use 30-50 pounds per acre. Onion Maggot — Use 40-50 pounds per acre. Apply when maggot flies appear and repeat every 4 days. Make no application on green, sprouting or bulb onions within 3 days of harvest.

ORNAMENTALS: Aphids — Make thorough full coverage application. Injury may occur on certain ferns and on some species of crassula. Do not use on tender lampeir.

PEAS: Pea Aphids, Pea Weevil — Use 25-30 pounds per acre. Make no application within 7 days of harvest if vines are to be used for feed; if vines are not to be fed may apply to within 3 days of harvest.

PECANS (0): Pecan Nut Casebearer — Use 100 pounds per acre. Apply when first brood larvae begin to enter nuts and repeat after 7 days as necessary. Pecan Bud Moth — Apply 10 pounds per acre by airplane. Apply 4.5 firings; 2.5 weeks apart when insects appear.

PEPPERMINT (7): Adult Flea Beetles, Variegated Cowpeas, Alfalfa Looper, Cabbage Looper — Use 25 pounds per acre.

PEPPERS (3): Pepper Maggot — Use 37 pounds per acre.

POTATOES (0): Aphids, Leafhoppers, False Chinch Bug, Meloidogyne — Use 40-50 pounds per acre.

PUMPKINS (0): Aphids, Leafhoppers — Use 30-50 pounds per acre. Squash Vine Borer — Use 45-50 pounds per acre. For Vine Borer control apply once or twice a week to stems and vines at base of plants. Do not apply unless plants are dry.

SQUASH (1): Aphids — Use 30-55 pounds per acre. Cucumber Beetle, Squash Vine Borer — Use 45-55 pounds per acre. For Vine Borer control apply weekly to stems and vines at base of plant. Do not apply unless plants are dry.

STRAWBERRIES (0): Aphids — Use 40 pounds per acre. Lygus Bug, Spittlebug, Field Cricket, Thrush, Potato Leafhopper, Whitley, Strawberry Leafroller — Use 25-50 pounds per acre.

TOMATOES (1): Aphids, Tomato Rusty Mild, Diaphorina — Use 40-50 pounds per acre.

USAGE CAUTIONS

This product is toxic to fish. Keep out of lakes, ponds and streams. Do not contaminate waterways by cleaning of equipment, or disposal, of wastes. Apply this product only as specified on the label.

This product is highly toxic to bats exposed to direct treatment or residue due to crops. Protective information may be obtained from your Cooperative Agricultural Extension Service.

Do not apply when weather conditions favor drift from the areas treated. Do not apply when runoff is likely to occur.

DISPOSE OF WASTES by burying in non-crop land away from water supplies. Empty bags should be buried with wastes, or burned. Keep out of streams.

For Emergency Assistance Call

714-733-3733

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Code: 715

MALATHION 25 SPRAY

DIRECTIONS FOR USE

Apply the following recommended rate in sufficient water to thoroughly cover one acre. Apply when insects first appear and repeat in a spray schedule or as necessary. Keep spray mixture agitated. For protection of honey bees avoid use if possible during periods when bees are visiting the crops. When necessary to use during such periods, wear bee keepers well in advance to locate hives at a safe distance until one week after application. Observe day interval between last application and harvest indicated by number in () following the crop.

ALFALFA (10): Armyworms — Use 3 pounds per acre.
AUBURN (10): Aphids and Peach Twig Borer — Use 3 to 4 pounds per 100 gallons of water. For Peach Twig Borer control apply during the pest fall period and in additional spray as necessary.

APPLES (2): Woolly Apple Aphid, Bud Moth, Rose Apple Aphid, Methylbug, Forbes Scale, Leafhoppers, Poinsettia Scale, San Jose Scale, Tentiform Leafminer and Yellow-necked Caterpillar — Use 2½ pounds per 100 gallons of water. For Scale apply when crawlers are present. Codling Moth, Red-Banded Leafroller, Tent Caterpillar and Bagworm — Use 3 pounds per acre.

APRICOTS (7): Codling Moth, Orange Tortrix, European Fruit Lecanium Scale, Soft Brown Scale, Aphids — Use 4 pounds per 100 gallons of water.

AVOCADOS (7): Larvae Scale, Greenhouse Thripse, Omnivorous Looper, Orange Tortrix and Soft Brown Scale — Use 3 pounds per 100 gallons of water.

BEANS (lima, Green, Bush, Navy, Red Kidney, Wax, Cowpeas, Black-eyed Peas) (1): Atropine (a antidiolol), 2%AM is also emulsifiable and may be administered in conjunction with streptocin.

USAGE CAUTIONS

Harmful if swallowed. Avoid breathing of spray mist or dust. Avoid contact with skin. Wash thoroughly after handling. Avoid contamination of feed and foodstuff.

NOTE TO PHYSICIANS: Malathion may cause cholinesterase inhibition. Atropine (a antidiolol), 2%AM is also emulsifiable and may be administered in conjunction with streptocin.

This product is toxic to fish, birds and other wildlife. Keep out of lakes, ponds and streams. Do not contaminate water by cleaning of equipment, or disposal of wastes. Apply this product only as specified on the label.

This product is highly toxic to bees exposed to direct treatment or residues on crops. Protective information may be obtained from your Cooperative Agricultural Extension Service.

Do not apply when weather condition's favor drift from the areas treated. Do not apply when run-off is likely to occur.

DISPOSE OF WASTES by burying in manure lands away from water supplies. Bag should be disposed of by burying with wastes or by burning. Keep out of smoke.

CITRUS (Grapefruit, Lemon, Lime, Orange, Tangerine, Tangelo, Kumquat) (7): California Red Scale, Yellow Scale, Purple Scale, Black Scale, Soft Scale, Citrolo Scale — Use 1½ to 3½ pounds per 100 gallons of water. Green Citrus Aphid — Use 1 to 2 pounds per 100 gallons of water. Do not apply during fall bloom.

FILBERTS (8): Filbert Aphid, Apple Methylbug, Eye-Spotted Bud Moth, Scale Crawler and Thripse — Use 2 pounds per 100 gallons of water.

GARLIC (1): LEERS (1): SHALLOTS (1): Thripse and Aphids — Use 4 pounds per acre.

CAUTION

INSECTICIDE

EPA REGISTRATION NO. 279-739 AA

ACTIVE INGREDIENT
Malathion
BY WT.
25.00%
INERT INGREDIENTS:
75.00%
100.00%

10,0-dimethyl dithiophosphate of Diethyl Mercaptosuccinate

CAUTION

KEEP OUT OF REACH OF CHILDREN

Net Weight
50 Pounds

GRAPES (3): Leafhoppers — Use 1 to 1½ pounds per 100 gallons of water. Injury may occur on Ribier, Hella, Cardinal or Almeria varieties when sprays are applied after clusters appear. Ground application equipment preferred.

HOPS (7): Aphids — Use 2 pounds per acre.

LETTUCE (leaf - 14, Head - 7): Aphid and Leafhoppers — Use 4 pounds per acre. Thripse — Use 4 pounds per acre. Onion Maggot — Use 6 pounds per acre. Make full coverage application to foliage when flies appear and treat every 4 days.

PEACHES (7): Oriental Fruit Moth — Use 3 pounds per 100 gallons of water. Green Peach Aphid, Black Cherry Aphid, Rusty Plum Aphid, European Fruit Lecanium Scale, Terospin Scale and Canyon Peach Scale — Use 2 to 2½ pounds per 100 gallons of water. For Scale control apply at completion of hatch, about 1st of June.

PEAR (1): Pear Psylla, Methylbug, Codling Moth, Fruit Tree Leafroller, Forbes Scale and San Jose Scale — Use 3 pounds per 100 gallons of water. For Scale control apply when crawlers are present. Apple Aphid and Apple Grain Aphid — Use 2 pounds per 100 gallons of water.

PECANS (1): Aphids, Pecan Nut Casebearer, and Pecan Bud Moth — Use 3 pounds per 100 gallons of water.

PEPPERS (3): Aphids — Use 2 pounds per acre.

PLUMS (3): PRUNES (3): Mealy Plum Aphid and Bud Moth (Prunes) — Use 2 pounds per 100 gallons of water.

PUMPKINS (1): SQUASH (1): Squash Vine Borer and Cucumber Beetles (Squash only) — Use 7 pounds per acre. Apply weekly to stems and vines at base of plants. Do not spray unless plants are dry.

STRAWBERRIES (3): Aphids — Use 2½ pounds per acre. Strawberry Root Weevil, Strawberry Leafroller and Bug, Spittlebug, Field Cricket, Thrip, Potato Leafhopper, Strawberry Leafroller and Whitefly — Use 4 to 6 pounds per acre.

SUGAR BEETS (1): Aphids — Use 5 pounds per acre. Grasshoppers — Use 6 pounds per acre.

TOMATOES (1): Aphids and Tomato Rustet Moth — Use 2 to 4 pounds per acre. Drosophilis — Use 6 pounds per acre.

FOR PEST CONTROL Use at the rate of 40 pounds in 100 gallons of water and apply at the rate of 1 gallon per 1,000 square feet of painted surfaces and 2 gallons per 1,000 square feet of unpainted surfaces in and around buildings which house domestic animals. Remove animals before spraying around yards and homes. Avoid contamination of food, utensils, milk, milk equipment, and water. Do not use on white-washed surfaces until 14 days after white-wash application. For greater effectiveness in fly control in and around buildings which house domestic animals, and other agricultural premises, the fly breeding sites such as manure and other waste materials should be eliminated.

ORNAMENTALS: Aphids, Soldier Moths, Whitefly and Mantidflies — Use 2½ pounds per 100 gallons of water. Soft Brown Scale and Monterey Pine Scale — Use 6 pounds per 100 gallons of water. CAUTION — Injury may occur to certain ferns, including Boston, Maidenhair and Polystichum, as well as some species of Crassula. Do not use on Camellia juniperus.

Printed in U.S.A.

For Emergency Assistance Call
216-733-3746

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BEANS (1): Aphids, Cucumber Beetles — Use 2 pints per acre. Mexican Bean Beetle, Leafhoppers — Use 1½ to 2 pints per acre. Lygus Bug (Dry Beans — California) — Use 1½ to 2 pints per acre.

BEETLES (7): Aphids — Use 1½ to 2 pints per acre.

BROCCOLI (1), BRUSSELS SPROUTS (7), CAULIFLOWER (7), CABBAGE (7), KALE (7), MUSTARD GREENS (7), TURNIPS (3): Aphids, Imported Cabbageworm, Cabbage Looper — Use 1 to 2 pints per acre.

CELERY (7): Spider Mites, Aphids — Use 1½ pints per acre.

CLOVER (0): Aphids, Leafhoppers, Lygus Bugs — Use 1½ to 2 pints per acre. Apply to plants in bloom only in the evening or early morning when bees are not working in the field or are not hanging on the outside of hives.

CORN (sweet) (5): Sap Beetles — Use 1½ pints per acre. Begin treatment when 10% of ears show silk. Repeat at 3 to 5 day intervals until 4 to 5 applications are made. Maize for Grain or forage: Young Grasshoppers — Use 1½ pints per acre. Apply when nymphs are young. Injury may occur in the whorl and silk stage, using this type Malathion product.

COTTON (0): Aphids, Leafhoppers, Whiteflies, Brown Cotton Leafworm, Cotton Leaffolder, Thrips, Lygus Bug — Use 1½ to 2 pints per acre. Ball Weevil — Use 1 to 3 quarts per acre.

CUCHIMIL (1), EGGPLANTS (3), SQUASH (1), MELONS (1), PEAS (3): Aphids — Use 1½ pints per acre. Do not apply unless plants are dry. Lace Bugs (Eggplant or Ly) — Use 3 pints per acre.

GARLIC (3), LEEKS (3), SHALLOTS (3): Thrips, Aphids — Use 1½ to 2 pints per acre.

GRAIN SORGHUM (7): Greenbugs — Use 1½ pints per acre. Make full coverage application and repeat as necessary.

OKRA (1): Aphids — Use 1½ pints per acre. Japanese Beetle — Use 2 to 2½ pints per acre.

ONIONS — including Green Onions (3): Onion Thrips — Use 1½ pints per acre.

ONION MAGGOTS — Use 2½ to 3 pints per acre.

PEAS (3): Aphids — Use 1½ to 2 pints per acre. Folage may be fed to livestock.

PEPPERS (3): Aphids — Use 1¼ to 1½ pints per acre. Pepper Maggots — Use 2½ pints per acre.

POTATOES (0): Aphids, Leafhoppers — Use 1 to 1½ pints per acre.

RICE (7): Rice Leafminer — Use 2½ pints per acre. Apply when the eggs and larvae are abundant on the seedling rice and repeat as necessary. Rice Stink Bug — Use 1 to 1½ pints per acre. Apply during the early milk and dough stage of growing rice. The rice herbicide, Propanil (Stam F-34 or Roque) should not be applied within 15 days of a Malathion treatment.

SWEET POTATOES (3): Leafhoppers, Morningglory Leafminers — Use 1½ to 3 pints per acre.

TOOMATOES: Aphids, Tomato Russet Mite — Use 1 to 3 pints per acre. Drosophil — Use 2½ to 3 pints per acre. Do not apply within 1 day of harvest. If necessary up to 1½ quarts per acre may be applied. Do not apply within 5 days of harvest. California only: Armyworms, Tomato Fruitworms — Use 2½ quarts per acre. Make full coverage application to foliage and fruit. Do not apply within 3 days of harvest.

ORNAMENTALS: Aphids, Whitemfy, Meshbug — Use 1½ to 2 pints per 100 gallons of water. Birch Leafminer, Bagworms, Tent Caterpillars, Soft Brown Scale and Monterey Pine Scale — Use 2½ pints per 100 gallons of water. Apply to completely cover. Do not use on Ceanothi Junipers. The use of this material may cause injury to certain ferns, including Boston, Maidenhair, and Pteris and some species of Crassula.

STORED ALMONDS: To protect stored shelled and in-shell almonds from attack by Indian Meal Moth and Merchant Grain Beetle, use 4 fluid ounces in sufficient water as Almonds go into storage to treat 10,000 pounds of almonds. Use a suitable mechanical spray applicator that regulates the rate of application to the flow of almonds. Avoid spraying with a fine mist that drifts away. Shield the nozzle against wind and air currents.

STORED GRAIN, FIELD AND GARDEN SEEDS: For the protection of wheat, oats, rice, corn, rye, barley, grain sorghum and field or garden seeds, against Confused Flour Beetle, Rice Weevil, Granary Weevil, Sawtoothed Grain Beetle, Flat Grain Beetle, Red Flour Beetle, Rusty Grain Borer, Lesser Grain Borer, and Indian Meal Moth, apply 1 pint of Malathion 5 E.C. In 2 to 5 gallons of water per 1000 bushels. Apply as the grain is being loaded or turned into final storage. To protect stored grains from attack by Indian Meal Moth, apply this material to the surface of clean or untreated grain at the rate of ½ pint in 1 to 2 gallons of water per 1000 square feet of grain surface area. Apply the spray evenly over the surface of the grain. Apply immediately after grain is loaded into storage and repeat if necessary.

GRAIN STORAGE: For a residual wall, floor, and machinery spray in grain elevators, in treating truck beds, and box cars, before loading grain, apply 1 gallon of this material per 25 gallons of water making thorough application. Before applying spray, clean elevators and box cars thoroughly. Remove and burn all sweepings and debris.

DROSOPHILA FLIES: For control of Drosophila flies in sod and around wineries and processing plants, paint all doors and window screens with a solution containing 3½ ounces in 1 quart of water. Avoid contamination of wine, food, utensils, equipment, and water. Avoid contamination of food processing areas of food processing plants. Do not apply this treatment in the edible product areas of food processing plants.

MOSQUITOES AND SMALL FLYING INSECTS: Mix 1 pint of Malathion 5 E.C. in directed to treat 1½ to 2 acres (2 ozs. per 600 sq. ft. for smaller areas). Use a 2% to 5% spray or fog on lawns and areas outside the home such as patios. Dilute 1 part (1 pint) Malathion 5 E.C. with 20 parts (3½ gals.) of water or kerosene type solvent such as fuel oil or diesel oil to make a 2% mix. For a 5% mix, dilute 1 part (1 pint) Malathion 5 E.C. with 11 parts (1¾ gals.) of water or similar oil solvents. Repeat applications as necessary. Avoid applying oil-based formulations to plants as injury may occur. Do not apply where food crops may be contaminated. Malathion 5 E.C., if accidental exposure occurs, the car should not be sprayed directly. If application limited to CRACK AND CREVICE TREATMENT ONLY; includes receiving, storage, packing (canning, bottling, wrapping, boxing) preparing, edible waste storage and enclosed processing systems (mills, dairies, edible oils, syrups) and serving areas (when food is exposed and facility is in operation). To control Ants, Centipedes, Clover Mites, Cockroaches, Crickets, Earwigs, Silverfish, Spiders, Cicada Beetles, Drug Store Beetles, Indian Meal Moth, Rice Weevil and Sawtooth Grain Beetles — Use either a water solution or a deodorized kerosene solution. To make a water solution, dilute 3 tablespoonsful in 1 quart of water or 6½ ounces per gallon. To make an oil solution, dilute 1 part in 19 quarts of solvent. Apply small amounts directly into cracks and crevices using equipment capable of delivering a fine stream of insecticide, in points between different elements of construction, between equipment and floors, openings leading to voids and hollow spaces in walls, equipment of legs and bases, in conduits, major housings, junction or switch boxes. Prior to application de-energize electrical equipment. After application allow time for oil to evaporate before starting motors or placing switches in "ON" position. Care should be taken to avoid depositing the product onto exposed surfaces or introducing the material into the air. Avoid contamination of food or food processing surfaces. **FOOD HANDLING ESTABLISHMENTS:** Places other than private residences in which exposed food is held, processed, prepared, or served. **SERVING AREAS:** Facilities where foods are served such as dining rooms, but excluding areas where foods may be prepared or held, apply as a spot treatment to selective surfaces, such as baseboards, under elements of construction and into cracks and crevices. Avoid treating surfaces likely to be contacted by food. (Do not apply when facility is in operation or foods are exposed.) **APPLICATIONS OF THIS PRODUCT IN THE FOOD AREAS OF FOOD HANDLING ESTABLISHMENTS OTHER THAN AS A CRACK AND CREVICE TREATMENT ARE NOT PERMITTED.**

Chemicals

Code
1081

DIRECTIONS FOR USE

Apply when pests first appear and repeat as necessary to maintain control. Apply the following recommended rates in sufficient water to thoroughly cover one acre. By ground, apply a minimum of 200 gallons per acre on stone fruits and nuts; a minimum of 300 gallons per acre on pome fruits; a minimum of 200 gallons per acre on bush and vine fruits and a minimum of 10 gallons per acre on vegetable and row crops. By air, a minimum of 2 gallons per acre on vegetables and field crops and a minimum of 20 gallons per acre on small fruits and tree crops. Use the designated amount in 100 gallons of water unless otherwise specified. Do not use in undiluted form. Observe a days interval between last application and harvest indicated by number in () following the crop.

APPLES (3): Codling Moth — Use 2 pints. Eyespotted Bud Moth, Forbats Scale, Woolly Aphid — Use 1 pint. Tent Caterpillars — Use 1 to 1½ pints. Mealybug — Use 1 to 2 pints. Green Apple Aphid, Rosy Apple Aphid — Use 1½ pints. For Codling Moth control apply at petal fall and every 10 to 14 days thereafter until control is achieved. Applications of this material may cause injury to McIntosh and related varieties of apples.

APRICOTS (7): Orange Tortrix, Soft Scale — Use 2 pints.

CHERRIES (3): Black Cherry Aphid, Fruittree Leafroller — Use 1½ pints. Cherry Fruit Fly, Eyespotted Bud Moth — Use 1 pint. Injury may occur on certain varieties of Sweet Cherries particularly in the Northwest.

FIGS (3): Vinegar Flies — Use 2 quarts plus 1 to 2 gallons Sulfured Molasses in a minimum of 300 gallons of water per acre.

GRAPEFRUIT (7), LEMONS (7), LIMES (7), TANGERINES (7): California Red Scale, Yellow Scale, Purple Scale, Black Scale, Soft Scale, Citricols Scale — Use 1½ pints. Red Scale, Purple Scale — Use 1½ pints per 100 gallons of water for light infestation and 2 pints per 100 gallons for moderate and heavy infestation. Thrips — Use 1¼ pints per 100 gallons of water per acre. Do not apply during full bloom.

GRAPES (3): Mealybugs — Use 1½ pints (200 to 275 gallons per acre). Emulsion may cause injury to foliage on some varieties. (Ribier, Italia, Cardinals, Almeria). PEACHES (7): Oriental Fruit Moth, Aphids — Use 2 pints. For Oriental Fruit Moth control apply at petal fall and every 10 to 14 days thereafter until control is achieved. PEARS (1): Pear Psylla, Mealybug — Use 1 to 2 pints. Codling Moth, Leafrollers — Use 2 pints. For Codling Moth control apply at petal fall and every 10 to 14 days thereafter until control is achieved. Injury may occur under certain conditions in the Northwest on Basic Pears.

PLUMS (3), PRUNES (3): Mealy Plum Aphid, Eyespotted Bud Moths (Prunes only) — Use 1 pint.

STRAWBERRIES (3): Aphids, Lygus Bugs, Spittle Bugs, Potato Leafhoppers, Strawberry Leafroller, Whitefly, Strawberry Fruit Weevil and Field Crickets — Use 1½ to 3 pints per acre. For Strawberry Fruit Weevil apply to the soil surface before planting, work into the top 6 to 8 inches of soil.

ALFALFA (0): Grasshoppers, Pea Aphid, Spotted Alfalfa Aphid, Lygus Bugs, Leafhoppers, Alfalfa Weevil Larvae — Use 1½ to 2½ pints per acre. Armyworms — Use 2 to 2½ pints per acre. Apply to Alfalfa in bloom only in the evening or early morning when bees are not working in the field or are not hanging on the outside of hives.

ASPARAGUS (1): Thrips — Use 1½ to 2 pints per acre. Asparagus Beetles — Use 2 plants per acre. BARLEY (7), OATS (7), RYE (7), WHEAT (7): Young Grasshoppers, Greenbugs, English Green Aphid — Use 1½ to 2 pints per acre. Armyworms — Use 2 pints per acre.

104W
MANUFACTURED IN U.S.A. BY

FMC CORPORATION
AGRICULTURAL CHEMICAL DIVISION
MIDDLEPORT, N.Y.
YAKIMA, WA.
RICHMOND, C.A.

This product is toxic to fish. Keep out of lakes, ponds and streams. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not apply when weather conditions favor drift from the areas treated. Do not apply where run-off is likely to occur. Apply this product only as specified on this label.

This product is highly toxic to bees exposed to direct treatment or residues on crops. Protective information may be obtained from your Cooperative Agricultural Extension Service.

Do not reuse empty 1 and 5 gallon containers. Destroy them by perforating or crushing. Return drum to reconditioner or destroy it by perforating or crushing. Bury or discard in a safe place away from water supplies.

Net Contents
Gallons

MALATHION 5 E.C.

INSECTICIDE

EPA REGISTRATION NO. 279-1053 AX

BY WT.

ACTIVE INGREDIENTS:	56.00%
*0,0-Dimethyl diethylphosphate of diethyl mercaptoisuccinate	34.00%
Xylene base aromatic petroleum solvent	10.00%
INERT INGREDIENTS:	100.00%

Contains 5.0 pounds *Malathion per gallon or 10.0 oz. Avoid disposal per pint.

This product contains Premium Grade Malathion

CAUTION

KEEP OUT OF REACH OF CHILDREN

Harmful if swallowed. Avoid breathing spray mist. Avoid contact with skin; wash thoroughly after using. Avoid contamination of feed and foodstuffs.

NOTE TO PHYSICIANS: Malathion may cause cholinesterase inhibition. Atropine is antidote. 2-PAM is also antidote and may be administered in conjunction with atropine.

DO NOT USE, FOUR, SPILL OR STORE NEAR HEAT OR OPEN FLAME.
DO NOT STORE AT TEMPERATURES BELOW 0° F.

Do not use in a manner or at a time other than in accordance with label directions because animal, plant or crop injury, illegal residues or other undesirable results may occur.

For Emergency Assistance Call
716-735-3765

ENVIRONMENTAL AND DISPOSAL CAUTIONS

This product is toxic to fish. Keep out of lakes, ponds and streams. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not apply when weather conditions favor drift from the areas treated. Do not apply where run-off is likely to occur. Apply this product only as specified on this label.

This product is highly toxic to bees exposed to direct treatment or residues on crops. Protective information may be obtained from your Cooperative Agricultural Extension Service.

Do not reuse empty 1 and 5 gallon containers. Destroy them by perforating or crushing. Return drum to reconditioner or destroy it by perforating or crushing. Bury or discard in a safe place away from water supplies.

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CLOVER (0): Aphids, Leafhoppers, Lygus Bugs — Use 1½ to 2 pints per acre. Apply to plants in bloom only in the evening or early morning when bees are not working in the field or are not hanging on the outside of hives.

COTTON (0): Aphids, Leafhoppers, Whiteflies, Brown Cotton Leafworm, Cotton Leafperforator, Thripes, Lygus Bug — Use 1½ to 2 pints per acre. Boll Weevil — Use 1 to 3 quarts per acre.

CUCUMBER (1), EGGPLANT (3), SQUASH (1), MELONS (1), PUMPKINS (3): Aphids — Use 1½ pints per acre. Do not apply unless plants are dry. Lace Bugs (eggplant only) — 3 pints per acre.

PICOS (3): Vinegar Flies — Use 2 quarts plus 1 to 2 gallons Sulfured Molasses in a minimum of 300 gallons of water per acre.

GRAIN, SORGHUM (17): Greenbugs — Use 1½ pints per acre. Make full coverage application.

GRAPES (3): Mealybugs — Use ½ pints (200 to 275 gallons per acre). Emulsion may cause injury to foliage on some varieties. (Ribier, Italia, Cardinals, Almeria). Ground application preferred.

ONIONS: Onion Thrips — Use 1½ pints per acre. Onion Maggots — Use 2½ pints per acre. Do not apply within 3 days of harvest for green onions.

PEACHES (7): Oriental Fruit Moth, Aphids — Use 2 pints. For Oriental Fruit Moth control apply at setal fall and every 10 to 14 days thereafter until control is achieved.

PEARS (1): Pear Psylla, Heavybug — Use 1 to 2 pints. Codling Moth, Leafrollers — Use 2 pints. For Codling Moth control apply at petal fall and every 10 to 14 days thereafter until control is achieved.

PEPPERS (3): Aphids — Use 1½ to 1¾ pints per acre. Pepper Maggots — Use 2½ pints per acre.

PLUMS (1), PRUNES (3): Mealy Plum Aphids, Escaped Bud Moth (Prunes only) — Use 1 pint.

RICE (7): Rice Leafminer — Use 2½ pints per acre. Apply when the eggs and larvae are abundant in the heading rice and repeat as necessary. Rice Stinkbug — Use 1 to ½ pints per acre. Apply

PLUMS (3): *Messy Plum Aphids, Eysarcoris Beldi Moth (Prunes only) — Use 1 pint.*

RICE (7): *Rice Leafminer — Use 2½ pints per acre. Apply when the eggs and larvae are abundant on the seedling rice and repeat as necessary. Rice Stinkbug — Use 1 to 1½ pints per acre. Apply during the early milk and dough stage of growing rice. The rice herbicide, Propanil (Isam F-34 or Zogua) should not be applied within 15 days of a Malathion treatment.*

SWEET CORN (5): *Sap Beetle — Use 1½ pints per acre. Begin treatment when 10% of ears show damage. Repeat at 3 to 5 day intervals until 4 to 5 applications are made. CORN (kaiaze) or grain or silk. Repeat at 3 to 5 day intervals until 4 to 5 applications are made. Young Grasshoppers — Use 1½ pints per acre. Apply when nymphs are young. Injury may occur in the whorl and silk stage using this type Malathion product.*

SWEET POTATOES (3): *Leafhoppers and Morningglory Leafminers — Use 1½ to 3 pints per acre.*

TOMATOES (California Only) (3): Armyworms, Fleeworms — Use 2½ quarts per acre. Make full coverage application to foliage and fruit.

STORED GRAIN, FIELD AND GARDEN SEEDS: For protection of wheat, oats, rice, corn, rye, barley, grain sorghum and seed or garden seeds, against *Cnaphalodes Floridus*, *Rice Weevil*, *Granny Weevil*, *Lesser Grain Beetle*, *Heddy Fleur Beetle*, *Rusty Beetle*, *Indian Meal Moth*, apply 1 pint in 2 to 5 gallons of water per 100 bushels. Apply as the grain is being loaded or turned into final storage. To protect stored grain from attack by Indian Meal Moth, apply this material to the surface of clean or uninfested grain at the rate of ½ pint in 1 to 2 gallons of water per 1000 square feet of grain surface area. Apply the spray evenly over the surface of the grain. Apply immediately after grain is loaded into storage and repeat if necessary.

GRAIN STORAGE: For a residual wall, floor, and machinery spray in grain elevators, in heating truck beds, box cars, before loading grain, apply 1 gallon of this material per 25 gallons of water making thorough application. Barrels applying spray, clean elevators and box cars thoroughly. Remove and turn all sweepings and dabbles.

SHelled AND In-Shell: Indian Meal Moth, Merchant Grain Beetles — Use 4 fluid ounces in sufficient water at Almonds to into storage to treat 10,000 pounds of almonds. Use a suitable mechanical spray applicator that regulates the rate of application to the flow of the almonds. Avoid spraying with a fine mist that drifts away. Shield the nozzle against wind and air currents.

DROSOPHILA FLIES — In and around wherelse and processing plants: Paint all doors and window frames with a solution containing 3/4 ounces in 1 quart of water. Avoid contamination of wine, food, utensils, equipment and water. Do not apply in the edible product areas of food processing plants.

MOSQUITOES AND SMALL FLYING INSECTS: Mix 1 pint of Malathion 5 E.C. as directed to treat 1 1/4 to 2 acres (1/2 acre, 1/2 oz. per 600 sq. ft., for smaller areas). Use a 2% to 3% spray, or fog on lawns and outside the home such as patios. Dilute 1 pint Malathion 5 E.C. with 3½ gallons of water or kerosene type solvent, fuel oil or diesel oil to make a 2% mix. For a 5% mix, dilute 1 pint Malathion 5 E.C. with 1½ gallons of water or similar oil solvents. Repeat application as necessary. Avoid applying oil-based formulations to plants as injury may occur. Do not apply where food crops may be contaminated. Malathion 5 E.C. may cause spotting on automobile paint finish. Cars should not be sprayed directly. If accidental exposure occurs, the car should be washed immediately.

FOOD AREAS — APPLICATION LIMITED TO CRACK AND CREEVAGE TREATMENT ONLY: Includes receiving, storage, packing (canning, bottling, wrapping, boxing), preparing, edible waste storage and associated handling systems (mixers, dairies, edible oils, syrups) and serving areas (when food is exposed and facility is in operation). To control Ants, Centipedes, Clover Mites, Cockroaches, Crickets, Indian Meal Beetles, Silverfish, Spiders, Cigarette Beetles, Drug Store Beetles, Confused Flour Beetles, Indian Meal Moth, Rice Weevil and Sawtooth Grain Beetles — Use either a water solution or a deodorized ketosene solution to make a water solution, dilute 1 tablespoonful in 1 quart of water or 6½ ounces per gallon. To make an oil solution, dilute 1 part in 10 quarts of solvent. Apply small amounts directly into cracks and crevices using equipment capable of delivering a fine stream of insecticide. In points between different elements of construction, between abutment and floors, openings leading to voids and hollow spaces in walls, equipment of legs and braces, in conduits, motor housings, luncheon or lunch boxes, Prior to application de-energize electrical equipment. After application allow time for oil to evaporate before starting motors or placing switches in "ON" position. Care should be taken to avoid depositing the product onto exposed surfaces or introducing the material into the air. Avoid contamination of food or food processing surfaces. **FOOD HANDLING ESTABLISHMENTS:** Places other than drivels residences in which exposed food is held, processed, prepared or served. **SERVING AREAS:** Facilities where foods are served such as dining room, but excluding areas where foods may be prepared or held, apply as a spot treatment to selective surfaces, such as baseboards, under cabinets, in doorways, etc. Do not apply when facility is in operation or foods are exposed. **APPLICATIONS OF THIS PRODUCT IN THE FOOD AREAS OF FOOD HANDLING ESTABLISHMENTS OTHER THAN AS A CRACK AND CREEVAGE TREATMENT ARE NOT RECOMMENDED.**

WARRANTY: FMG warrants that this product, as of the time of sale by FMG, (1) conforms to the ingredient statement on the label and (2) is reasonably fit for the purpose set forth in the directions for use. EXCEPT AS SO WARRANTED, THE PRODUCT IS SOLD AS IS. FMG MAKES NO OTHER WARRANTY.

Chemicals

EPA EAST '79-FA-1 Related to U.S.A.

Summary of Human Occupationally-Acquired Illnesses
Reported in 1974 by Physicians in California
as being Due to Exposure to Omite and Comite

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CALIFORNIA DEPARTMENT OF HEALTH and
CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

Summary of Human Occupationally-Acquired Illnesses Reported in 1974 by
Physicians in California as Due to Exposure to OMITE or COMITE

AGE	OCCUPATION	EXPOSURE	NATURE OF DISEASE	COUNTY
21	Ground Applicator	Spraying peach trees with sulfur, omite and imidan-- rash on face, neck and arms	Contact dermatitis on neck and arms	Merced
25	Ground Applicator	Spraying with omite; soaked upper part of body when cleaning plugged nozzle.	Contact dermatitis; chemical	Merced
35	Ground Applicator	Spraying chemicals; rash on neck, arms and eyelids	Erythematous, dermatitis	San Bernardino
43	Ground Applicator	Spraying omite; wind blew chemical on him.	First degree chemical burns on neck and arms	Tulare
45	Ground Applicator	Spraying cotton with omite broke out in rash	Contact dermatitis on right eyelid, scrotum and neck	Tulare
49	Ground Applicator	Spraying trees with omite and benlate; drifted into eyes.	Allergic conjunctivitis	Fresno
18	Ground Applicator	Wiped face with shirt sleeve and got omite in eyes.	Chemical conjunctivitis	Kern
44	Ground Applicator	Opening bags of dust and spraying omite and dibrom; got some in eyes.	Bilateral conjunctivitis	Orange

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<u>AGE</u>	<u>OCCUPATION</u>	<u>EXPOSURE</u>	<u>NATURE OF DISEASE</u>	<u>COUNTY</u>
9 18	Ground Applicator	Spraying grape vines with omite and sulfur; drifted into eyes.	Bilateral chemical conjunctivitis and periorcular dermatitis	Fresno
10 28	Ground Applicator	Mixing, spraying and loading omite and zolone	Inhalation of spray	Merced
11 26	Ground Applicator	Spraying phosdrin and omite	Phosphate poisoning	Ventura
12 18	Ground Applicator	Spraying omite on almonds; rash on legs and body. Had also used sulfur on grapes.	Dermatitis on chest, ankles and legs	Fresno
13 25	Ground Applicator	Spraying omite and ZNP on peaches	Contact dermatitis	Kern
14 39	Ground Applicator	Spraying almonds with ZNP, guthlion and omite	Generalized rash; M.D. not certain of cause. States that it may have been omite.	Kern
15 19	Ground Applicator	Spraying omite for 2 days	Rash on neck, chest and arms; particularly the exposed areas.	Kern
16 30	Ground Applicator	Driving spray rig and got chemicals on both arms. (omite and dibrom)	Dermatitis on both arms	Kern
17 33	Ground Applicator	Spraying omite	Rash	Kings

AGE	OCCUPATION	EXPOSURE	NATURE OF DISEASE	COUNTY
18	Ground Applicator	Spraying peach trees using omite, potassium nitrate and basic copper sulfur.	Contact dermatitis; arms	Merced
20	Ground Applicator	Spraying peach trees with sulfur, omite and imidan; rash on face, neck and arms.	Contact dermatitis neck and arms.	Merced
19	Ground Applicator	Got omite in eyes	Chemical conjunctivitis eyes; antecubital fossae; legs and groin.	Kern
20	Ground Applicator	Got omite in eyes	Chemical conjunctivitis eyes; antecubital fossae; legs and groin.	Kern
21	Ground Applicator	Spraying omite; wiped his face with his sleeve and got omite in his eyes	Chemical conjunctivitis and dermatitis of forearms.	Tulare
22	Ground Applicator	Spraying almonds with omite was wearing face shield but it still got in his eyes.	Chemical conjunctivitis and chemical dermatitis	Tulare
23	Mixer-Loader	Working with omite; developed rash	Rash on elbow, wrist and especially neck.	Kern
24	Ground Applicator	Applying comite to cotton; wind blew it into eyes.	Chemical conjunctivitis	Tulare
25	Mixer-Loader	Loading a fan sprayer; got too much water in tank and omite drifted onto him.	Erythematous papular rash of right forearm and abdomen	Fresno
26	Mixer-Loader	Mixing pesticides; dropped a can in mix tank and omite got in his eyes.	Chemical conjunctivitis	Kern

AGE	OCCUPATION	EXPOSURE	NATURE OF DISEASE	COUNTY
27	18 Mixer-Loader	Mixing omite; got into eyes.	Heavy punctate stains of cornea	Kern
28	19 Mixer-Loader	Pouring omite from sacks into a box then dumping into helicopter tank.	Bilateral chemical Keratitis	Tulare
29	54 Mixer-Loader	Transferring comite from nurse rig to tractor; got splashed in face	Chemical burns of cornea	Tulare
30	48 Other	Spraying roses with omite and benlate over her head and mist fell into eyes.	Chemical conjunctivitis severe and bilateral	Kern
31	49 Irrigator	Was irrigating; crop duster sprayed him causing eyes to burn (comite and dibrom)	Nausea, difficult speech weak and salivation	Merced
32	21 Cleaning and Machine Repair	Cleaning pesticide equipment; chemical got in eyes; equipment had been used for applying sulfur and omite.	Chemical conjunctivitis	Tulare
33	25 Field Worker	Working in almond field; lumps started on rear and spread all over his body.	Allergic dermatitis	Kern
34	37 Field Worker	Picking berries and developed rash all over his body.	Hives and rash on arms and neck	Ventura

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AGE	OCCUPATION	EXPOSURE	NATURE OF DISEASE		COUNTY
18	Ground Applicator	Spraying grapes with sulfur and omite; exposed to drift	Contact dermatitis		Fresno
35	Field Worker	Exposed to omite and guthion	Skin condition; type unknown	UNK	
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**DETAILED BREAKDOWN OF DATA FROM SUMMARY OF HUMAN OCCUPATIONALLY-ACQUIRED
ILLNESSES REPORTED IN 1974 BY PHYSICIANS IN CALIFORNIA AS DUE
TO EXPOSURE TO OMITE/COMITE**

**Prepared By
California Department of Health**

<u>AGE</u>		<u>MATERIAL</u>	
18 - 25	18	Omite	30
26 - 35	7	Comite	3
36 - 45	5	Unknown	3
46 - 55	4		
56 - 65	1		
Unknown	1		

<u>COUNTY</u>		<u>CROP</u>	
Kern	12	Peaches	4
Tulare	7	Almonds	4
Merced	6	Cotton	2
Fresno	5	Grapes	2
Ventura	2	Roses	1
San Bernardino	1	Berries	1
Orange	1	Not Designated	22
Kings	1		
Unknown	1		

<u>OCCUPATION</u>		<u>BODY AREA AFFECTED</u>	
Ground Applicator	24	Skin	8
Mixer/Loader	6	Arms	2
Field Worker	3	Chest	1
Machine Repair/Cleaning	1	Neck/Arms	6
Irrigator	1	Chest/Ankles/Legs	1
Other	1	Eye/Scrotum/Neck	1
		Eye/Skin	1
		Eye	13
		Systemic	3

<u>OPERATION</u>	
Spraying	20
Mixing/Loading	7
Miscellaneous Exposure	3
Wiped Face	2
Picking	1
Field Work	1
Cleaning Machine	1
Drift	1

Pesticide Illness Reports and Investigations
Involving Omite and Comite During 1974

PESTICIDE ILLNESS REPORTS AND INVESTIGATIONS
INVOLVING OMITE/COMITE DURING 1974

These are the Pesticide Illness Reports which are reflected in the chart prepared by the State Department of Health in the preceding attachment. Note that the incidents referred to on the summary have been numbered and the same number is placed in the upper right hand corner of the associated illness report or investigation.

In case the Health Department report and the associated Pesticide Illness Reports and investigations are going to be used in any subsequent registration evaluation process, it should be noted that there are at least four incidents included in this report upon which we may be vulnerable. Attention is directed to incidents numbered 10, 11, 31, 33 and 36.

Incident number 10 was a mixture of Zolone and Omite wettable powders. The victim had severe phosphate poisoning symptoms which much more likely were associated with Zolone than Omite.

Incident number 11 was similar to number 10 as it was a mixture of Omite and Phosdrin. The phosphate poisoning would have been caused by the Phosdrin and not the Omite.

Incident number 31 was a mixture of Dibrom and Omite producing a systemic reaction more likely the result of Dibrom.

Incident number 33 was diagnosed by the treating physician as not a pesticide illness. This report indicates the use of Omite but that the victim was not using any of the spray which would give anyone challenging the inclusion of this report a firm basis to do so.

We have no Pesticide Illness Report for incident number 36.

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